

# EXHIBIT A



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190538 7590 12/13/2024 PATENT ASSET MANAGEMENT, LLC c/o DOBBIN IP LAW, P.C. 2250 S REDWOOD RD STE 5 WEST VALLEY CITY, UT 84119-1355			EXAMINER COPPOLA, JACOB C	
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			3992	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



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***EX PARTE* REEXAMINATION COMMUNICATION TRANSMITTAL FORM**

REEXAMINATION CONTROL NO. 90/019,550 .

PATENT UNDER REEXAMINATION 7650376 .

ART UNIT 3992 .

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

**Office Action in Ex Parte Reexamination**Control No.  
90/019,550Patent Under Reexamination  
7650376Examiner  
JACOB C COPPOLAArt Unit  
3992AIA (FITF) Status  
Yes**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

- a. ☒ Responsive to the communication(s) filed on 21 June 2024.  
☒ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on 21 June 2024.

b. ☐ This action is made FINAL.

c. ☒ A statement under 37 CFR 1.530 has not been received from the patent owner.

A shortened statutory period for response to this action is set to expire 2 month(s) from the mailing date of this letter. Failure to respond within the period for response will result in termination of the proceeding and issuance of an *ex parte* reexamination certificate in accordance with this action. 37 CFR 1.550(d). **EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.550(c)**. If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.

**Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:**

1. ☒ Notice of References Cited by Examiner, PTO-892. 3. ☐ Interview Summary, PTO-474.  
 2. ☐ Information Disclosure Statement, PTO/SB/08. 4. ☐ \_\_\_\_\_.

**Part II SUMMARY OF ACTION**

- 1a. ☒ Claims 1-24,27,29-79,81,84-113,116 and 118-123 are subject to reexamination.  
 1b. ☒ Claims 25-26,28,80,82-83,114-115 and 117 are not subject to reexamination.  
 2. ☐ Claims \_\_\_\_\_ have been canceled in the present reexamination proceeding.  
 3. ☐ Claims \_\_\_\_\_ are patentable and/or confirmed.  
 4. ☒ Claims 1-24,27,29-79,81,84-113,116 and 118-123 are rejected.  
 5. ☐ Claims \_\_\_\_\_ are objected to.  
 6. ☐ The drawings, filed on \_\_\_\_\_ are acceptable.  
 7. ☐ The proposed drawing correction, filed on \_\_\_\_\_ has been (7a) ☐ approved (7b) ☐ disapproved.  
 8. ☐ Acknowledgment is made of the priority claim under 35 U.S.C. 119(a)-(d) or (f).  
     a) ☐ All b) ☐ Some\* c) ☐ None of the certified copies have  
         1 ☐ been received.  
         2 ☐ not been received.  
         3 ☐ been filed in Application No. \_\_\_\_\_.  
         4 ☐ been filed in reexamination Control No. \_\_\_\_\_.  
         5 ☐ been received by the International Bureau in PCT application No. \_\_\_\_\_.  
     \* See the attached detailed Office action for a list of the certified copies not received.  
 9. ☐ Since the proceeding appears to be in condition for issuance of an *ex parte* reexamination certificate except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte* Quayle, 1935 C.D. 11, 453 O.G. 213.  
 10. ☐ Other: \_\_\_\_\_

cc: Requester (if third party requester)

U.S. Patent and Trademark Office

PTOL-466 (Rev. 08-13)

Office Action in Ex Parte Reexamination

Part of Paper No. 20241202

Control Number: 90/019,550

Page 2

Art Unit: 3992

**NON-FINAL ACTION (REEXAMINATION OF US PATENT 7,650,376)****Table of Contents**

1. Acknowledgements .....	12
2. Status of Claims .....	14
3. Priority and AIA Status .....	14
4. Claim Interpretation .....	15
5. Prior Art Relied Upon .....	15
6. Declarations Considered .....	16
7. Functional Phrases Invoking 35 USC § 112, 6th Paragraph .....	16
7.1. Functional Phrase #1 .....	17
7.1.1. Prong (A) .....	18
7.1.2. Prong (B) .....	18
7.1.3. Prong (C) .....	19
7.1.4. Corresponding Structure for Functional Phrase #1 .....	19
7.2. Functional Phrase #2 .....	21
7.2.1. Prong (A) .....	22
7.2.2. Prong (B) .....	22
7.2.3. Prong (C) .....	23
7.2.4. Corresponding Structure for Functional Phrase #2 .....	23
7.3. Functional Phrase #3 .....	24
7.3.1. Prong (A) .....	25
7.3.2. Prong (B) .....	25
7.3.3. Prong (C) .....	26
7.3.4. Corresponding Structure for Functional Phrase #3 .....	26
7.4. Functional Phrase #4 .....	28
7.4.1. Prong (A) .....	28
7.4.2. Prong (B) .....	28
7.4.3. Prong (C) .....	28
7.4.4. Corresponding Structure for Functional Phrase #4 .....	29
7.5. Functional Phrase #5 .....	30
7.5.1. Prong (A) .....	30
7.5.2. Prong (B) .....	30

Control Number: 90/019,550

Page 3

Art Unit: 3992

7.5.3.	Prong (C).....	30
7.5.4.	Corresponding Structure for Functional Phrase #5.....	31
7.6.	Functional Phrase #6.....	32
7.6.1.	Prong (A) .....	32
7.6.2.	Prong (B).....	32
7.6.3.	Prong (C).....	32
7.6.4.	Corresponding Structure for Functional Phrase #6.....	33
7.7.	Functional Phrase #7 .....	34
7.7.1.	Prong (A) .....	35
7.7.2.	Prong (B).....	35
7.7.3.	Prong (C).....	35
7.7.4.	Corresponding Structure for Functional Phrase #7.....	36
7.8.	Functional Phrase #8.....	37
7.8.1.	Prong (A) .....	38
7.8.2.	Prong (B).....	38
7.8.3.	Prong (C).....	38
7.8.4.	Corresponding Structure for Functional Phrase #8.....	39
7.9.	Functional Phrase #9.....	40
7.9.1.	Prong (A) .....	40
7.9.2.	Prong (B).....	41
7.9.3.	Prong (C).....	41
7.9.4.	Corresponding Structure for Functional Phrase #9.....	41
7.10.	Functional Phrase #10.....	43
7.10.1.	Prong (A).....	43
7.10.2.	Prong (B).....	43
7.10.3.	Prong (C) .....	44
7.10.4.	Corresponding Structure for Functional Phrase #10.....	44
7.11.	Functional Phrase #11 .....	45
7.11.1.	Prong (A).....	46
7.11.2.	Prong (B).....	46
7.11.3.	Prong (C).....	47
7.11.4.	Corresponding Structure for Functional Phrase #11 .....	47
7.12.	Functional Phrase #12.....	48
7.12.1.	Prong (A).....	49

Control Number: 90/019,550

Page 4

Art Unit: 3992

7.12.2.	Prong (B).....	49
7.12.3.	Prong (C).....	49
7.12.4.	Corresponding Structure for Functional Phrase #12.....	50
7.13.	Functional Phrase #13.....	50
7.13.1.	Prong (A).....	51
7.13.2.	Prong (B).....	51
7.13.3.	Prong (C).....	52
7.13.4.	Corresponding Structure for Functional Phrase #13.....	52
7.14.	Functional Phrase #14.....	53
7.14.1.	Prong (A).....	53
7.14.2.	Prong (B).....	54
7.14.3.	Prong (C).....	54
7.14.4.	Corresponding Structure for Functional Phrase #14.....	54
7.15.	Functional Phrase #15.....	55
7.15.1.	Prong (A).....	55
7.15.2.	Prong (B).....	55
7.15.3.	Prong (C).....	55
7.15.4.	Corresponding Structure for Functional Phrase #15.....	55
7.16.	Functional Phrase #16.....	56
7.16.1.	Prong (A).....	56
7.16.2.	Prong (B).....	57
7.16.3.	Prong (C).....	57
7.16.4.	Corresponding Structure for Functional Phrase #16.....	57
7.17.	Functional Phrase #17.....	58
7.17.1.	Prong (A).....	58
7.17.2.	Prong (B).....	58
7.17.3.	Prong (C).....	58
7.17.4.	Corresponding Structure for Functional Phrase #17.....	58
7.18.	Functional Phrase #18.....	59
7.18.1.	Prong (A).....	59
7.18.2.	Prong (B).....	59
7.18.3.	Prong (C).....	59
7.18.4.	Corresponding Structure for Functional Phrase #18.....	60

Control Number: 90/019,550

Page 5

Art Unit: 3992

7.19.	Functional Phrase #19 .....	61
7.19.1.	Prong (A) .....	61
7.19.2.	Prong (B) .....	61
7.19.3.	Prong (C) .....	61
7.19.4.	Corresponding Structure for Functional Phrase #19 .....	61
7.20.	Functional Phrase #20 .....	62
7.20.1.	Prong (A) .....	62
7.20.2.	Prong (B) .....	63
7.20.3.	Prong (C) .....	63
7.20.4.	Corresponding Structure for Functional Phrase #20 .....	63
7.21.	Functional Phrase #21 .....	64
7.21.1.	Prong (A) .....	64
7.21.2.	Prong (B) .....	65
7.21.3.	Prong (C) .....	65
7.21.4.	Corresponding Structure for Functional Phrase #21 .....	66
7.22.	Functional Phrase #22 .....	66
7.22.1.	Prong (A) .....	67
7.22.2.	Prong (B) .....	67
7.22.3.	Prong (C) .....	68
7.22.4.	Corresponding Structure for Functional Phrase #22 .....	68
7.23.	Functional Phrase #23 .....	69
7.23.1.	Prong (A) .....	69
7.23.2.	Prong (B) .....	69
7.23.3.	Prong (C) .....	70
7.23.4.	Corresponding Structure for Functional Phrase #23 .....	70
7.24.	Functional Phrase #24 .....	71
7.24.1.	Prong (A) .....	71
7.24.2.	Prong (B) .....	72
7.24.3.	Prong (C) .....	72
7.24.4.	Corresponding Structure for Functional Phrase #24 .....	72
7.25.	Functional Phrase #25 .....	73
7.25.1.	Prong (A) .....	73
7.25.2.	Prong (B) .....	73
7.25.3.	Prong (C) .....	74

Control Number: 90/019,550

Page 6

Art Unit: 3992

7.25.4.	Corresponding Structure for Functional Phrase #25 .....	74
7.26.	Functional Phrase #26 .....	75
7.26.1.	Prong (A) .....	75
7.26.2.	Prong (B) .....	76
7.26.3.	Prong (C) .....	76
7.26.4.	Corresponding Structure for Functional Phrase #26 .....	76
7.27.	Functional Phrase #27 .....	77
7.27.1.	Prong (A) .....	78
7.27.2.	Prong (B) .....	79
7.27.3.	Prong (C) .....	80
7.27.4.	Corresponding Structure for Functional Phrase #27 .....	80
7.28.	Functional Phrase #28 .....	81
7.28.1.	Prong (A) .....	82
7.28.2.	Prong (B) .....	83
7.28.3.	Prong (C) .....	84
7.28.4.	Corresponding Structure for Functional Phrase #28 .....	84
7.29.	Functional Phrase #29 .....	85
7.29.1.	Prong (A) .....	86
7.29.2.	Prong (B) .....	86
7.29.3.	Prong (C) .....	87
7.29.4.	Corresponding Structure for Functional Phrase #29 .....	87
7.30.	Functional Phrase #30 .....	89
7.30.1.	Prong (A) .....	89
7.30.2.	Prong (B) .....	90
7.30.3.	Prong (C) .....	90
7.30.4.	Corresponding Structure for Functional Phrase #30 .....	90
7.31.	Functional Phrase #31 .....	91
7.31.1.	Prong (A) .....	92
7.31.2.	Prong (B) .....	92
7.31.3.	Prong (C) .....	92
7.31.4.	Corresponding Structure for Functional Phrase #31 .....	93
7.32.	Functional Phrase #32 .....	94
7.32.1.	Prong (A) .....	94
7.32.2.	Prong (B) .....	95

Control Number: 90/019,550

Page 7

Art Unit: 3992

7.32.3.	Prong (C) .....	95
7.32.4.	Corresponding Structure for Functional Phrase #32 .....	95
7.33.	Functional Phrase #33 .....	97
7.33.1.	Prong (A) .....	97
7.33.2.	Prong (B) .....	98
7.33.3.	Prong (C) .....	98
7.33.4.	Corresponding Structure for Functional Phrase #33 .....	99
7.34.	Functional Phrase #34 .....	100
7.34.1.	Prong (A) .....	101
7.34.2.	Prong (B) .....	101
7.34.3.	Prong (C) .....	102
7.34.4.	Corresponding Structure for Functional Phrase #34 .....	102
7.35.	Functional Phrase #35 .....	103
7.35.1.	Prong (A) .....	104
7.35.2.	Prong (B) .....	104
7.35.3.	Prong (C) .....	105
7.35.4.	Corresponding Structure for Functional Phrase #35 .....	105
7.36.	Functional Phrase #36 .....	106
7.36.1.	Prong (A) .....	107
7.36.2.	Prong (B) .....	107
7.36.3.	Prong (C) .....	108
7.36.4.	Corresponding Structure for Functional Phrase #36 .....	108
7.37.	Functional Phrase #37 .....	109
7.37.1.	Prong (A) .....	110
7.37.2.	Prong (B) .....	110
7.37.3.	Prong (C) .....	111
7.37.4.	Corresponding Structure for Functional Phrase #37 .....	111
7.38.	Functional Phrase #38 .....	113
7.38.1.	Prong (A) .....	113
7.38.2.	Prong (B) .....	114
7.38.3.	Prong (C) .....	114
7.38.4.	Corresponding Structure for Functional Phrase #38 .....	115
7.39.	Functional Phrase #39 .....	115
7.39.1.	Prong (A) .....	116

Control Number: 90/019,550

Page 8

Art Unit: 3992

7.39.2.	Prong (B).....	116
7.39.3.	Prong (C).....	117
7.39.4.	Corresponding Structure for Functional Phrase #39 .....	117
7.40.	Functional Phrase #40.....	119
7.40.1.	Prong (A).....	119
7.40.2.	Prong (B).....	119
7.40.3.	Prong (C).....	119
7.40.4.	Corresponding Structure for Functional Phrase #40 .....	120
7.41.	Functional Phrase #41 .....	120
7.41.1.	Prong (A).....	121
7.41.2.	Prong (B).....	121
7.41.3.	Prong (C).....	121
7.41.4.	Corresponding Structure for Functional Phrase #41 .....	122
7.42.	Functional Phrase #42.....	123
7.42.1.	Prong (A).....	123
7.42.2.	Prong (B).....	123
7.42.3.	Prong (C).....	123
7.42.4.	Corresponding Structure for Functional Phrase #42 .....	124
7.43.	Functional Phrase #43.....	124
7.43.1.	Prong (A).....	124
7.43.2.	Prong (B).....	125
7.43.3.	Prong (C).....	125
7.43.4.	Corresponding Structure for Functional Phrase #43 .....	126
7.44.	Functional Phrase #44.....	126
7.44.1.	Prong (A).....	126
7.44.2.	Prong (B).....	127
7.44.3.	Prong (C).....	127
7.44.4.	Corresponding Structure for Functional Phrase #44 .....	127
7.45.	Functional Phrase #45.....	128
7.45.1.	Prong (A).....	128
7.45.2.	Prong (B).....	129
7.45.3.	Prong (C).....	129
7.45.4.	Corresponding Structure for Functional Phrase #45 .....	130

Control Number: 90/019,550

Page 9

Art Unit: 3992

7.46.	Functional Phrase #46 .....	130
7.46.1.	Prong (A) .....	131
7.46.2.	Prong (B) .....	131
7.46.3.	Prong (C) .....	131
7.46.4.	Corresponding Structure for Functional Phrase #46 .....	132
7.47.	Functional Phrase #47 .....	133
7.47.1.	Prong (A) .....	133
7.47.2.	Prong (B) .....	133
7.47.3.	Prong (C) .....	134
7.47.4.	Corresponding Structure for Functional Phrase #47 .....	135
7.48.	Functional Phrase #48 .....	135
7.48.1.	Prong (A) .....	136
7.48.2.	Prong (B) .....	136
7.48.3.	Prong (C) .....	137
7.48.4.	Corresponding Structure for Functional Phrase #48 .....	137
7.49.	Functional Phrase #49 .....	138
7.49.1.	Prong (A) .....	139
7.49.2.	Prong (B) .....	139
7.49.3.	Prong (C) .....	140
7.49.4.	Corresponding Structure for Functional Phrase #49 .....	140
7.50.	Functional Phrase #50 .....	141
7.50.1.	Prong (A) .....	141
7.50.2.	Prong (B) .....	142
7.50.3.	Prong (C) .....	142
7.50.4.	Corresponding Structure for Functional Phrase #50 .....	142
7.51.	Functional Phrase #51 .....	143
7.51.1.	Prong (A) .....	144
7.51.2.	Prong (B) .....	144
7.51.3.	Prong (C) .....	144
7.51.4.	Corresponding Structure for Functional Phrase #51 .....	145
7.52.	Functional Phrase #52 .....	146
7.52.1.	Prong (A) .....	146
7.52.2.	Prong (B) .....	147
7.52.3.	Prong (C) .....	147

Control Number: 90/019,550

Page 10

Art Unit: 3992

7.52.4.	Corresponding Structure for Functional Phrase #52 .....	147
7.53.	Functional Phrase #53 .....	149
7.53.1.	Prong (A) .....	149
7.53.2.	Prong (B) .....	149
7.53.3.	Prong (C) .....	149
7.53.4.	Corresponding Structure for Functional Phrase #53 .....	150
7.54.	Functional Phrase #54 .....	151
7.54.1.	Prong (A) .....	151
7.54.2.	Prong (B) .....	152
7.54.3.	Prong (C) .....	152
7.54.4.	Corresponding Structure for Functional Phrase #54 .....	152
7.55.	Functional Phrase #55 .....	153
7.55.1.	Prong (A) .....	154
7.55.2.	Prong (B) .....	154
7.55.3.	Prong (C) .....	154
7.55.4.	Corresponding Structure for Functional Phrase #55 .....	155
7.56.	Functional Phrase #56 .....	156
7.56.1.	Prong (A) .....	156
7.56.2.	Prong (B) .....	156
7.56.3.	Prong (C) .....	157
7.56.4.	Corresponding Structure for Functional Phrase #56 .....	157
7.57.	Functional Phrase #57 .....	159
7.57.1.	Prong (A) .....	159
7.57.2.	Prong (B) .....	159
7.57.3.	Prong (C) .....	159
7.57.4.	Corresponding Structure for Functional Phrase #57 .....	160
7.58.	Functional Phrase #58 .....	161
7.58.1.	Prong (A) .....	161
7.58.2.	Prong (B) .....	161
7.58.3.	Prong (C) .....	161
7.58.4.	Corresponding Structure for Functional Phrase #58 .....	162
7.59.	Functional Phrase #59 .....	163
7.59.1.	Prong (A) .....	163
7.59.2.	Prong (B) .....	163

Control Number: 90/019,550

Page 11

Art Unit: 3992

7.59.3.	Prong (C).....	163
7.59.4.	Corresponding Structure for Functional Phrase #59.....	164
7.60.	Functional Phrase #60.....	165
7.60.1.	Prong (A).....	165
7.60.2.	Prong (B).....	165
7.60.3.	Prong (C).....	165
7.60.4.	Corresponding Structure for Functional Phrase #60.....	166
7.61.	Functional Phrase #61.....	167
7.61.1.	Prong (A).....	167
7.61.2.	Prong (B).....	168
7.61.3.	Prong (C).....	168
7.61.4.	Corresponding Structure for Functional Phrase #61.....	168
7.62.	Functional Phrase #62.....	170
7.62.1.	Prong (A).....	170
7.62.2.	Prong (B).....	170
7.62.3.	Prong (C).....	170
7.62.4.	Corresponding Structure for Functional Phrase #62.....	171
7.63.	Functional Phrase #63.....	172
7.63.1.	Prong (A).....	172
7.63.2.	Prong (B).....	173
7.63.3.	Prong (C).....	173
7.63.4.	Corresponding Structure for Functional Phrase #63.....	173
7.64.	Functional Phrase #64.....	175
7.64.1.	Prong (A).....	175
7.64.2.	Prong (B).....	176
7.64.3.	Prong (C).....	176
7.64.4.	Corresponding Structure for Functional Phrase #64.....	177
7.65.	Functional Phrase #65.....	178
7.65.1.	Prong (A).....	178
7.65.2.	Prong (B).....	178
7.65.3.	Prong (C).....	178
7.65.4.	Corresponding Structure for Functional Phrase #65.....	179
7.66.	Functional Phrase #66.....	180
7.66.1.	Prong (A).....	180

Control Number: 90/019,550  
Art Unit: 3992

Page 12

7.66.2.	Prong (B) .....	181
7.66.3.	Prong (C) .....	181
7.66.4.	Corresponding Structure for Functional Phrase #66 .....	181
7.67.	Functional Phrase #67 .....	182
7.67.1.	Prong (A) .....	183
7.67.2.	Prong (B) .....	183
7.67.3.	Prong (C) .....	183
7.67.4.	Corresponding Structure for Functional Phrase #67 .....	184
7.68.	Functional Phrase #68 .....	185
7.68.1.	Prong (A) .....	185
7.68.2.	Prong (B) .....	186
7.68.3.	Prong (C) .....	186
7.68.4.	Corresponding Structure for Functional Phrase #68 .....	187
8.	Claim Rejections – 35 USC § 103 .....	188
8.1.	Obvious over Little, in view of Nuttall .....	188
8.2.	Obvious over Little/Nuttall, in view of Kenner .....	235
8.3.	Obvious over Little/Nuttall, in view of Auerbach .....	238
8.4.	Obvious over Little/Nuttall, in view of Szabo .....	316
8.5.	Obvious over Little/Nuttall/Auerbach, in view of Kenner .....	322
8.6.	Obvious over Little/Nuttall/Auerbach, in view of Pierre .....	323
8.7.	Obvious over Little/Nuttall/Auerbach, in view of Szabo .....	326
9.	Conclusion .....	329

## 1. Acknowledgements

This non-final Office action addresses control no. 90/019,550 (“Instant Proceeding”), which is a Reexamination of US Patent No. 7,650,376 (“376 Patent”) titled “CONTENT DISTRIBUTION SYSTEM FOR DISTRIBUTING CONTENT OVER A NETWORK, WITH PARTICULAR APPLICABILITY TO DISTRIBUTING HIGH-BANDWIDTH CONTENT.”

An application for the 376 Patent was filed on 20 November 2000 (“Non-Provisional Filing Date”) and assigned by the Office non-provisional US patent application number

Control Number: 90/019,550

Page 13

Art Unit: 3992

09/717,184 (“Non-Provisional Application” or “184 Application”) and issued on 19 January 2010 with claims 1–123 (“Originally Patented Claims”).

Based upon a review of the Instant Proceeding, the actual filing date is 21 June 2024 (“Actual Filing Date”).

An *ex parte* request for reexamination (“Request”) of claims 1, 17–22, 24, 27, 29–30, 32–34, 37–38, 41, 47, 49, 51–53, 56, 90, 95, 98, 104, 106–111, 113, 116, 118–119, and 121–123 of the 376 Patent was received on the Actual Filing Date.

The Office mailed an Order Granting Reexamination on 21 August 2024 (“Order”), noting that Substantial New Questions of Patentability (“SNQs”) had been raised by the Request. Order at p. 6.

At the discretion of the Examiner, and in addition to the claims identified in the Request, the Order identified claims 2–12, 15–16, 23, 31, 35–36, 39–40, 42–46, 48, 50, 54–55, 57–67, 70–79, 81, 84–89, 91–94, 96–97, 99–101, 105, 112, and 120 as also subject to reexamination based on the SNQs in the Request. Order at p. 7. Moreover, claims 13–14, 68–69, and 102–103 are substantially similar to claims 45–46. However, the Order includes a typographical error in terms of omitting claims 13–14, 68–69, and 102–103 from the identified claims for reexamination. Nevertheless, since claims 13–14, 68–69, and 102–103 are substantially similar to claims 45–46, and because their omission was a typographical error, claims 13–14, 68–69, and 102–103 are also subject to reexamination.

Therefore, claims 1–24, 27, 29–79, 81, 84–113, 116, and 118–123 are subject to reexamination under 35 USC § 257.

Control Number: 90/019,550  
Art Unit: 3992

Page 14

## 2. Status of Claims

Claims 1–123 are currently pending (“Pending Claims”).

Claims 1–24, 27, 29–79, 81, 84–113, 116, and 118–123 are currently reexamined (“Reexamined Claims”).

Claims 25–26, 28, 80, 82–83, 114–115, and 117 are not subject to reexamination.

Regarding the Reexamined Claims and as a result of this Office action:

a) Claims 1–24, 27, 29–79, 81, 84–113, 116, and 118–123 are rejected under 35 USC § 103.

## 3. Priority and AIA Status

*Domestic Priority.* Based upon a review of the Non-Provisional Application and the 376 Patent, the Examiner finds that the 376 Patent includes a claim for benefit of domestic priority under 35 USC §§ 120 or 119(e) to provisional application 60/192,165, filed on 27 March 2000 (“Provisional Application”).

*AIA Status.* Because the Non-Provisional Filing Date is before 16 March 2013, the America Invents Act First Inventor to File (“AIA-FITF”) provisions do not apply. Instead, the pre-AIA “First to Invent” provisions will govern this proceeding. See 35 USC § 100 (note). In the event the determination of the status of the application as subject to pre-AIA 35 USC §§ 102 and 103 is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

Control Number: 90/019,550

Page 15

Art Unit: 3992

#### 4. Claim Interpretation

Based in-part on the Non-Provisional Filing Date, the Examiner finds that the 376 Patent is expired. Because the 376 Patent is expired, and therefore the patented claims are not subject to amendment, claim interpretation for this reexamination proceeding will be applied pursuant to the principle set forth by the court in *Phillips v. AWH Corp.*, 415 F.3d 1303,1316, 75 USPQ2d 1321, 1329 (Fed. Cir. 2005)(words of a claim “are generally given their ordinary and customary meaning” as understood by a person of ordinary skill in the art in question at the time of the invention). See MPEP § 2258 I.G.

#### 5. Prior Art Relied Upon

This non-final Office action is based on prior art cited in the Request and additional references of record, all of which are listed below:

- a) Little et al., *Selection and Dissemination of Digital Video via the Virtual Video Browser*, Multimedia Tools and Applications, vol. 1, no. 2, 1995 (“Little”);
- b) US Patent 6,202,056 (“Nuttall”);
- c) US Patent 5,956,716 (“Kenner”);
- d) US Patent 6,832,253 (“Auerbach”);
- e) Pierre et al., *Topological Design of Computer Communication Networks Using Simulated Annealing*, Engineering Applications of Artificial Intelligence, Vol. 8, No. 1, pp. 61–69, 1995 (“Pierre”); and
- f) US Patent 8,370,362 (“Szabo”).

Control Number: 90/019,550

Page 16

Art Unit: 3992

## 6. Declarations Considered

The declarations by James T. Geier (Exhibit 1003) and Sylvia D. Hall-Ellis, Ph.D. (Exhibit 1013) submitted by the Requester have been considered by the Examiner.

## 7. Functional Phrases Invoking 35 USC § 112, 6th Paragraph

The following is a quotation of pre-AIA § 35 USC § 112, 6th Paragraph<sup>1</sup>:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

One exception to the broadest reasonable interpretation standard occurs when a claimed phrase is interpreted in accordance with 35 USC § 112, 6<sup>th</sup> paragraph (“§ 112 ¶ 6”). See MPEP § 2181 *et seq.* To invoke § 112, ¶ 6, a claimed phrase must meet the three prong analysis (“**3 Prong Analysis**”) as set forth in MPEP § 2181 I.

Use of the word “means” in a claim with functional language creates a rebuttable presumption that the claim limitation should be interpreted in accordance with § 112 ¶ 6. The presumption that the claim limitation is interpreted under § 112 ¶ 6 is rebutted when the claim limitation recites sufficient structure to perform the entire claimed function.

Absence of the word “means” in a claim creates a rebuttable presumption that the claim limitation is not to be interpreted in accordance with § 112 ¶ 6. The presumption that the claim

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<sup>1</sup> “Paragraph 6 of 35 U.S.C. § 112 was replaced with newly designated § 112(f) when § 4(c) of the America Invents Act (AIA), Pub. L. No. 112-29, took effect on September 16, 2012. Because the applications resulting in the patents at issue in this case were filed before that date, we will refer to the pre-AIA version of § 112.” *Mobile Media Ideas LLC v. Apple Inc.*, 780 F.3d 1159, 1168 n3 (Fed. Cir. 2015).

Control Number: 90/019,550

Page 17

Art Unit: 3992

limitation is not interpreted under § 112 ¶ 6 is rebutted when the claim limitation recites function without reciting sufficient structure to perform the *entire* claimed function.

Claim limitations that use the word “means” are therefore being interpreted under § 112 ¶ 6, except as otherwise indicated below. Conversely, claim limitations that do not use the word “means” are *not* being interpreted under § 112 ¶ 6, except as otherwise indicated below.

The following phrases will be first identified and then analyzed using the MPEP’s 3 Prong Analysis to determine if the claimed phrase invokes § 112 ¶ 6. If a phrase invokes § 112 ¶ 6, the corresponding structure for the phrase will also be determined.

### 7.1. Functional Phrase #1

The first functional phrase to be considered is the following group of functional phrases:

- (1) “means for receiving a request from a client for specified content.” Claim 1 (“**Functional Phrase #1.1**” or “**FP#1.1**”);
- (2) “means for receiving a request for content from a client.” Claim 35 (“**Functional Phrase #1.2**” or “**FP#1.2**”); and
- (3) “means for receiving a request from a client that is part of the network for transmission of a set of content to the client.” Claim 36 (“**Functional Phrase #1.3**” or “**FP#1.3**”).

The three functional phrases above will be referred to collectively as “**Functional Phrase #1**” or “**FP#1**” throughout the remainder of the analysis unless expressly noted otherwise.

Control Number: 90/019,550  
Art Unit: 3992

Page 18

### 7.1.1. Prong (A)

In accordance with the MPEP, Prong (A) requires “the claim limitation uses the term ‘means’ [...] or a term used as a substitute for ‘means’ that is a generic placeholder [...] for performing the claimed function.” MPEP § 2181 I. (“**Prong (A)**”).<sup>2</sup>

The Examiner finds that FP#1 uses the term “means.” Therefore, FP#1 meets Prong (A).

### 7.1.2. Prong (B)

In accordance with the MPEP, Prong (B) requires “the term ‘means’ [...] or the generic placeholder is modified by functional language, typically, but not always linked by the transition word ‘for’ [...] or another linking word or phrase, such as ‘configured to’ or ‘so that.’” MPEP § 2181 I. (“**Prong (B)**”).

Based upon the claim language itself, the Examiner finds the function of FP#1 is:

- (1) “receiving a request from a client for specified content.” Claim 1 (“**Function of FP#1.1**”);
- (2) “receiving a request for content from a client.” Claim 35 (“**Function of FP#1.2**”); and
- (3) “receiving a request from a client that is part of the network for transmission of a set of content to the client.” Claim 36 (“**Function of FP#1.3**”).

The three functions above will be referred to collectively as “**Function of FP#1**” throughout the remainder of the analysis unless expressly noted otherwise.

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<sup>2</sup> See also *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1349 (Fed. Cir. 2015) (*en banc*) quoting *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed Cir. 2000) where the CAFC set forth the standard for determining if a functional phrase overcomes the presumption that § 112, ¶ 6 is not invoked (i.e., invokes 112, ¶ 6) when a phrase does not use the word “means.”

Control Number: 90/019,550  
 Art Unit: 3992

Page 19

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#1 will have its ordinary meaning. “Ordinary principles of claim construction govern interpretation of this claim language [...] and, for all the reasons discussed in the preceding two sections, we construe this function according to its ordinary meaning [...]” *Golight, Inc. v. Wal-Mart Stores, Inc.*, 355 F.3d 1327, 1333-34 (Fed. Cir. 2004)(citations omitted). “Ordinary principles of claim construction govern interpretation of the claim language used to describe the function.” *Cardiac Pacemakers, Inc. v. St. Jude Medical, Inc.*, 296 F.3d 1106, 1113 (Fed. Cir. 2002)(citations omitted).

### **7.1.3. Prong (C)**

In accordance with the MPEP, Prong (C) requires “the term ‘means’ [...] or the generic placeholder is not modified by sufficient structure [...] for performing the claimed function.” MPEP § 2181 I. (“**Prong (C)**”).

Based upon a review of FP#1, the Examiner finds that FP#1 does not contain sufficient structure for performing the *entire* Function of FP#1.

Because FP#1 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#1 meets Prong (C). Because FP#1 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#1 invokes § 112 ¶ 6.

### **7.1.4. Corresponding Structure for Functional Phrase #1**

“The next step in construing a means-plus-function claim limitation is to look to the specification and identify the corresponding structure for that function.” *In re Aoyama*, 656 F3d

Control Number: 90/019,550

Page 20

Art Unit: 3992

1293, 1297 (Fed. Cir. 2011) quoting *Golight, Inc. v. Wal-Mart Stores, Inc.*, 355 F.3d 1327, 1333 (Fed. Cir. 2004). “Under this second step, structure disclosed in the specification is ‘corresponding’ structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.” *Aoyama*, 656 F3d at 1297 quoting *Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1210 (Fed. Cir. 2003).

Furthermore, if the claimed phrase is meant to cover software, “[i]t is well-established that the corresponding structure for a function performed by a software algorithm is the algorithm itself.” *EON Corp. IP Holdings LLC v. AT&T Mobility LLC*, 785 F.3d 616, 621, 114 USPQ2d 1711, 1714 (Fed. Cir. 2015). In other words, “[i]f special programming is required for a general-purpose computer to perform the corresponding claimed function, then the default rule requiring disclosure of an algorithm applies.” *Ergo Licensing, LLC v. CareFusion 303, Inc.*, 673 F.3d 1361, 1365 (Fed. Cir. 2012).

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#1 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#1.

The 376 Patent discloses “core server software accepts [...] requests for content.” 376 Patent, C8:L47–48.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

Control Number: 90/019,550  
Art Unit: 3992

Page 21

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#1 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#1 to an algorithm, and based on the fact that claims 1, 35, and 36 already expressly recite the disclosed “core server,” the corresponding structure of FP#1 appears to be software (e.g., “core server software”).

## 7.2. Functional Phrase #2

The second functional phrase to be considered is the following group of functional phrases:

(1) “means for communicating to the client the identity of a node server having the specified content stored thereon, thereby enabling the client to request transmission of the specified content from the node server.” Claim 1 (“**Functional Phrase #2.1**” or “**FP#2.1**”);

(2) “means for communicating the identity of the candidate node servers to the client to enable the client to request transmission of the specified content via the network from one or more of the candidate node servers.” Claim 9 (“**Functional Phrase #2.2**” or “**FP#2.2**”);

(3) “means for communicating the identity of the candidate node servers to the client to enable the client to request transmission of the requested content via the network from one or more of the candidate node servers.” Claim 35 (“**Functional Phrase #2.3**” or “**FP#2.3**”); and

Control Number: 90/019,550  
Art Unit: 3992

Page 22

(4) “means for communicating the identity of the candidate node servers to the client to enable the client to request transmission of the requested content via the network from one or more of the candidate node servers.” Claim 36 (“**Functional Phrase #2.4**” or “**FP#2.4**”).

The four functional phrases above will be referred to collectively as “**Functional Phrase #2**” or “**FP#2**” throughout the remainder of the analysis unless expressly noted otherwise.

#### **7.2.1. Prong (A)**

As an initial matter, the Examiner finds that FP#2 uses the term “means.” Therefore, FP#2 meets Prong (A).

#### **7.2.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#2 is:

(1) “communicating to the client the identity of a node server having the specified content stored thereon, thereby enabling the client to request transmission of the specified content from the node server.” Claim 1 (“**Function of FP#2.1**”);

(2) “communicating the identity of the candidate node servers to the client to enable the client to request transmission of the specified content via the network from one or more of the candidate node servers.” Claim 9 (“**Function of FP#2.2**”);

(3) “communicating the identity of the candidate node servers to the client to enable the client to request transmission of the requested content via the network from one or more of the candidate node servers.” Claim 35 (“**Function of FP#2.3**”); and

(4) “communicating the identity of the candidate node servers to the client to enable the client to request transmission of the requested content via the network from one or more of the candidate node servers.” Claim 36 (“**Function of FP#2.4**”).

The four functions above will be referred to collectively as “**Function of FP#2**” throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#2 will have its ordinary meaning.

#### **7.2.3. Prong (C)**

Based upon a review of FP#2, the Examiner finds that FP#2 does not contain sufficient structure for performing the *entire* Function of FP#2.

Because FP#2 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#2 meets Prong (C). Because FP#2 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#2 invokes § 112 ¶ 6.

#### **7.2.4. Corresponding Structure for Functional Phrase #2**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#2 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#2.

Control Number: 90/019,550  
Art Unit: 3992

Page 24

The 376 Patent discloses “the core server communicates the identity of the candidate node server(s) to the client.” 376 Patent, C6:L15–16.

The 376 Patent discloses “the core server can respond to the request by providing to the client a list of one or more candidate node server(s) from each of which some part or all of the content can be obtained.” 376 Patent, C8:L50–53.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner finds the above disclosure provides a clear link or association made between the Function of FP#2 and some corresponding structure (i.e., some algorithm) found in the specification. Particularly, the corresponding structure of the Function of FP#2 appears to be an algorithm comprising providing to the client a list of one or more candidate node server(s) from each of which some part or all of the content can be obtained.

### 7.3. Functional Phrase #3

The third functional phrase to be considered is the following group of functional phrases:

(1) “means for ascertaining that the node server transmitted the specified content to the client.” Claim 1 (“**Functional Phrase #3.1**” or “**FP#3.1**”);

Control Number: 90/019,550

Page 25

Art Unit: 3992

(2) “means for ascertaining which of the one or more of the candidate node servers transmitted requested content to the client.” Claim 35 (“**Functional Phrase #3.2**” or “**FP#3.2**”); and

(3) “means for ascertaining which of the one or more of the candidate node servers transmitted requested content to the client.” Claim 36 (“**Functional Phrase #3.3**” or “**FP#3.3**”).

The three functional phrases above will be referred to collectively as “**Functional Phrase #3**” or “**FP#3**” throughout the remainder of the analysis unless expressly noted otherwise.

#### **7.3.1. Prong (A)**

As an initial matter, the Examiner finds that FP#3 uses the term “means.” Therefore, FP#3 meets Prong (A).

#### **7.3.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#3 is:

(1) “ascertaining that the node server transmitted the specified content to the client.” Claim 1 (“**Function of FP#3.1**”);

(2) “ascertaining which of the one or more of the candidate node servers transmitted requested content to the client.” Claim 35 (“**Function of FP#3.2**”); and

(3) “ascertaining which of the one or more of the candidate node servers transmitted requested content to the client.” Claim 36 (“**Function of FP#3.3**”).

Control Number: 90/019,550  
Art Unit: 3992

Page 26

The three functions above will be referred to collectively as “**Function of FP#3**” throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#3 will have its ordinary meaning.

### **7.3.3. Prong (C)**

Based upon a review of FP#3, the Examiner finds that FP#3 does not contain sufficient structure for performing the *entire* Function of FP#3.

Because FP#3 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#3 meets Prong (C). Because FP#3 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#3 invokes § 112 ¶ 6.

### **7.3.4. Corresponding Structure for Functional Phrase #3**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#3 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#3.

The 376 Patent discloses “the client communicates with the core server regarding the success of the delivery of the requested content,” for example, “the client can indicate to the core server whether the content was delivered or not.” C6:L52–55.

Control Number: 90/019,550

Page 27

Art Unit: 3992

The 376 Patent discloses that “[a]lternatively, some or all of the information regarding delivery of content from a node server to the client can be communicated to the core server by the node server.” C6:L62–65.

The 376 Patent discloses “the core server software can audit the delivery of content by node servers and receipt [...] of content by clients. [...]. The auditing information can include, for example, data regarding which content was viewed by a client or distributed by a node server [...].” 376 Patent, C9:L19–38.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...].” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#3 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#3 to an algorithm, and based on the fact that claims 1, 35, and 36 already expressly recite the disclosed “core server,” the corresponding structure of the Function of FP#3 appears to be an algorithm comprising, after delivery of specified content from the node server to the client, auditing a message from the client and/or the node server indicating whether the content was delivered from the node server.

Control Number: 90/019,550  
Art Unit: 3992

Page 28

#### **7.4. Functional Phrase #4**

The fourth functional phrase to be considered is “means for obtaining information regarding the characteristics of the transmission of the content.” Claim 6 (“**Functional Phrase #4**” or “**FP#4**”).

##### **7.4.1. Prong (A)**

As an initial matter, the Examiner finds that FP#4 uses the term “means.” Therefore, FP#4 meets Prong (A).

##### **7.4.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#4 is “obtaining information regarding the characteristics of the transmission of the content.” Claim 6 (“**Function of FP#4**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#4 will have its ordinary meaning.

##### **7.4.3. Prong (C)**

Based upon a review of FP#4, the Examiner finds that FP#4 does not contain sufficient structure for performing the *entire* Function of FP#4.

Because FP#4 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#4 meets Prong (C). Because FP#4 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#4 invokes § 112 ¶ 6.

**7.4.4. Corresponding Structure for Functional Phrase #4**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#4 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#4.

The 376 Patent discloses “the core server software can audit the delivery of content by node servers and receipt [...] of content by clients.” 376 Patent, C9:L19–21 (emphasis added).

The 376 Patent discloses “The auditing information can include, for example, data regarding which content was viewed by a client or distributed by a node server, when the content was viewed by a client or distributed by a node server, and the amount of the payment due from the client or incentive due to the node server. The auditing information may also include data regarding the characteristics of the content delivery, such as, for example, the bandwidth and/or latency performance associated with the content delivery or, when video content is delivered, the frame rate of the video produced from the delivered video content.” 376 Patent, C9:L33–43 (emphasis added).

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#4 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#4 to an algorithm, and based on the fact that claim 1 already expressly recites the disclosed “core server,” the corresponding structure of the Function of FP#4 appears to be an algorithm comprising receiving auditing information comprising characteristics of the transmission of the content.

Control Number: 90/019,550  
Art Unit: 3992

Page 30

### 7.5. Functional Phrase #5

The fifth functional phrase to be considered is “means for obtaining information regarding when the content was delivered.” Claim 7 (“**Functional Phrase #5**” or “**FP#5**”).

#### 7.5.1. Prong (A)

As an initial matter, the Examiner finds that FP#5 uses the term “means.” Therefore, FP#5 meets Prong (A).

#### 7.5.2. Prong (B)

Based upon the claim language itself, the Examiner finds the function of FP#5 is “obtaining information regarding when the content was delivered.” Claim 7 (“**Function of FP#5**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#5 will have its ordinary meaning.

#### 7.5.3. Prong (C)

Based upon a review of FP#5, the Examiner finds that FP#5 does not contain sufficient structure for performing the *entire* Function of FP#5.

Because FP#5 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#5 meets Prong (C). Because FP#5 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#5 invokes § 112 ¶ 6.

Control Number: 90/019,550  
Art Unit: 3992

Page 31

#### **7.5.4. Corresponding Structure for Functional Phrase #5**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#5 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#5.

The 376 Patent discloses “the core server software can audit the delivery of content by node servers and receipt [...] of content by clients.” 376 Patent, C9:L19–21 (emphasis added).

The 376 Patent discloses “The auditing information can include, for example, data regarding which content was viewed by a client or distributed by a node server, when the content was viewed by a client or distributed by a node server, and the amount of the payment due from the client or incentive due to the node server. The auditing information may also include data regarding the characteristics of the content delivery, such as, for example, the bandwidth and/or latency performance associated with the content delivery or, when video content is delivered, the frame rate of the video produced from the delivered video content.” 376 Patent, C9:L33–43 (emphasis added).

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#5 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#5 to an algorithm, and based on the fact that claim 1 already expressly recites the disclosed “core server,” the corresponding structure of the Function of FP#5 appears to be an algorithm comprising receiving auditing information comprising when the content was delivered.

Control Number: 90/019,550  
Art Unit: 3992

Page 32

## **7.6. Functional Phrase #6**

The sixth functional phrase to be considered is “means for obtaining information regarding the bandwidth and/or latency performance associated with the transmission of the content.” Claim 8 (“**Functional Phrase #6**” or “**FP#6**”).

### **7.6.1. Prong (A)**

As an initial matter, the Examiner finds that FP#6 uses the term “means.” Therefore, FP#6 meets Prong (A).

### **7.6.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#6 is “obtaining information regarding the bandwidth and/or latency performance associated with the transmission of the content.” Claim 8 (“**Function of FP#6**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#6 will have its ordinary meaning.

### **7.6.3. Prong (C)**

Based upon a review of FP#6, the Examiner finds that FP#6 does not contain sufficient structure for performing the *entire* Function of FP#6.

Because FP#6 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#6 meets Prong (C). Because FP#6 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#6 invokes § 112 ¶ 6.

Control Number: 90/019,550  
Art Unit: 3992

Page 33

#### **7.6.4. Corresponding Structure for Functional Phrase #6**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#6 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#6.

The 376 Patent discloses “the core server software can audit the delivery of content by node servers and receipt [...] of content by clients.” 376 Patent, C9:L19–21 (emphasis added).

The 376 Patent discloses “The auditing information can include, for example, data regarding which content was viewed by a client or distributed by a node server, when the content was viewed by a client or distributed by a node server, and the amount of the payment due from the client or incentive due to the node server. The auditing information may also include data regarding the characteristics of the content delivery, such as, for example, the bandwidth and/or latency performance associated with the content delivery or, when video content is delivered, the frame rate of the video produced from the delivered video content.” 376 Patent, C9:L33–43 (emphasis added).

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...].” 376 Patent, C7:L21–24.

Control Number: 90/019,550

Page 34

Art Unit: 3992

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#6 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#6 to an algorithm, and based on the fact that claim 8 already expressly recites the disclosed “core server,” the corresponding structure of the Function of FP#6 appears to be software (e.g., “core server software”).

### **7.7. Functional Phrase #7**

The seventh functional phrase to be considered is the following group of functional phrases:

(1) “means for identifying a plurality of node servers within the network that have at least part of the specified content stored thereon.” Claim 9 (“**Functional Phrase #7.1**” or “**FP#7.1**”); and

(2) “means for identifying which of a plurality of sets of content or parts of the plurality of sets of content are stored by each of a plurality of node servers that are part of the network.” Claim 36 (“**Functional Phrase #7.2**” or “**FP#7.2**”).

The two functional phrases above will be referred to collectively as “**Functional Phrase #7**” or “**FP#7**” throughout the remainder of the analysis unless expressly noted otherwise.

Control Number: 90/019,550

Page 35

Art Unit: 3992

**7.7.1. Prong (A)**

As an initial matter, the Examiner finds that FP#7 uses the term “means.” Therefore, FP#7 meets Prong (A).

**7.7.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#7 is:

(1) “identifying a plurality of node servers within the network that have at least part of the specified content stored thereon.” Claim 9 (“**Function of FP#7.1**”); and

(2) “identifying which of a plurality of sets of content or parts of the plurality of sets of content are stored by each of a plurality of node servers that are part of the network.” Claim 36 (“**Function of FP#7.2**”).

The two functions above will be referred to collectively as “**Function of FP#7**” throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#7 will have its ordinary meaning.

**7.7.3. Prong (C)**

Based upon a review of FP#7, the Examiner finds that FP#7 does not contain sufficient structure for performing the *entire* Function of FP#7.

Control Number: 90/019,550

Page 36

Art Unit: 3992

Because FP#7 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#7 meets Prong (C). Because FP#7 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#7 invokes § 112 ¶ 6.

#### **7.7.4. Corresponding Structure for Functional Phrase #7**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#7 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#7.

The 376 Patent discloses “the core server identifies one or more node servers (‘candidate node server(s)’) from which the client can obtain some part or all of the requested content. [...]. In particular [...] the core server reviews a network topology database and selects candidate node server(s) based on an analysis of the topological relationship between the client and node servers [...] having some part or all of the requested content stored thereon.” 376 Patent, C5:L46–57 (emphasis added).

The 376 Patent discloses “A core server also stores and updates account information for clients and/or node servers [...] to keep track of the content provided by a network site acting as a node server.” 376 Patent, C9:L22–28 (emphasis added).

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

Control Number: 90/019,550

Page 37

Art Unit: 3992

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#7 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#7 to an algorithm, and based on the fact that claims 1 and 36 already expressly recite the disclosed “core server,” the corresponding structure of the Function of FP#7 appears to be an algorithm comprising maintaining a database that tracks the content provided by each node server.

### 7.8. Functional Phrase #8

The eighth functional phrase to be considered is the following group of functional phrases:

(1) “means for selecting from the plurality of node servers one or more candidate node servers.” Claim 9 (“**Functional Phrase #8.1**” or “**FP#8.2**”); and

(2) “means for selecting from the plurality of node servers one or more candidate node servers that have stored thereon at least part of the requested set of content.” Claim 36 (“**Functional Phrase #8.2**” or “**FP#8.2**”).

The two functional phrases above will be referred to collectively as “**Functional Phrase #8**” or “**FP#8**” throughout the remainder of the analysis unless expressly noted otherwise.

Control Number: 90/019,550  
Art Unit: 3992

Page 38

### 7.8.1. Prong (A)

As an initial matter, the Examiner finds that FP#8 uses the term “means.” Therefore, FP#8 meets Prong (A).

### 7.8.2. Prong (B)

Based upon the claim language itself, the Examiner finds the function of FP#8 is:

(1) “selecting from the plurality of node servers one or more candidate node servers.”

Claim 9 (“**Function of FP#8.1**”); and

(2) “selecting from the plurality of node servers one or more candidate node servers that have stored thereon at least part of the requested set of content.” Claim 36 (“**Function of FP#8.2**”).

The two functions above will be referred to collectively as “**Function of FP#8**” throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#8 will have its ordinary meaning.

### 7.8.3. Prong (C)

Based upon a review of FP#8, the Examiner finds that FP#8 does not contain sufficient structure for performing the *entire* Function of FP#8.

Because FP#8 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#8 meets Prong (C). Because FP#8 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#8 invokes § 112 ¶ 6.

#### **7.8.4. Corresponding Structure for Functional Phrase #8**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#8 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#8.

The 376 Patent discloses “the core server identifies one or more node servers (‘candidate node server(s)’) from which the client can obtain some part or all of the requested content. [...]. In particular [...] the core server reviews a network topology database and selects candidate node server(s) **based on** an analysis of the topological relationship between the client and node servers [...] having some part or all of the requested content stored thereon.” 376 Patent, C5:L46–57 (emphasis added).

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...].” 376 Patent, C7:L21–24.

Control Number: 90/019,550

Page 40

Art Unit: 3992

Based upon a review of the 376 Patent, the Examiner finds the above disclosure provides a clear link or association made between the Function of FP#8 and some corresponding structure (i.e., some algorithm) found in the specification. Particularly, the corresponding structure of the Function of FP#8 appears to be an algorithm comprising selecting a node server(s) as a candidate node server(s) based on an analysis of the topological relationship between the client and the node server(s).

### 7.9. Functional Phrase #9

The ninth functional phrase to be considered is the following group of functional phrases:

(1) “means for determining the location of the client within the network.” Claim 10

(“**Functional Phrase #9.1**” or “**FP#9.1**”); and

(2) “means for determining the location of the client within the network.” Claim 35

(“**Functional Phrase #9.2**” or “**FP#9.2**”).

The two functional phrases above will be referred to collectively as “**Functional Phrase #9**” or “**FP#9**” throughout the remainder of the analysis unless expressly noted otherwise.

#### 7.9.1. Prong (A)

As an initial matter, the Examiner finds that FP#9 uses the term “means.” Therefore, FP#9 meets Prong (A).

Control Number: 90/019,550  
Art Unit: 3992

Page 41

### **7.9.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#9 is:

(1) “determining the location of the client within the network.” Claim 10 (“**Function of FP#9.1**”); and

(2) “determining the location of the client within the network.” Claim 35 (“**Function of FP#9.2**”).

The two functions above will be referred to collectively as “**Function of FP#9**” throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#9 will have its ordinary meaning.

### **7.9.3. Prong (C)**

Based upon a review of FP#9, the Examiner finds that FP#9 does not contain sufficient structure for performing the *entire* Function of FP#9.

Because FP#9 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#9 meets Prong (C). Because FP#9 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#9 invokes § 112 ¶ 6.

### **7.9.4. Corresponding Structure for Functional Phrase #9**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#9 is not coextensive with a general-purpose

Control Number: 90/019,550

Page 42

Art Unit: 3992

computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#9.

The 376 Patent discloses “determining the location of the client within the network.” 376 Patent, C2:L37–38.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#9 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#9 to an algorithm, and based on the fact that claims 10 and 35 already expressly recite the disclosed “core server,” the corresponding structure of the Function of FP#9 appears to be software (e.g., “core server software”).

Control Number: 90/019,550  
Art Unit: 3992

Page 43

### 7.10. Functional Phrase #10

The tenth functional phrase to be considered is the following group of functional phrases:

(1) “means for identifying the locations of the plurality of node servers that have at least part of the requested content stored thereon.” Claim 10 (“**Functional Phrase #10.1**” or “**FP#10.1**”); and

(2) “means for identifying the location of a plurality of node servers within the network that have at least part of the requested content stored thereon.” Claim 35 (“**Functional Phrase #10.2**” or “**FP#10.2**”).

The two functional phrases above will be referred to collectively as “**Functional Phrase #10**” or “**FP#10**” throughout the remainder of the analysis unless expressly noted otherwise.

#### 7.10.1. Prong (A)

As an initial matter, the Examiner finds that FP#10 uses the term “means.” Therefore, FP#10 meets Prong (A).

#### 7.10.2. Prong (B)

Based upon the claim language itself, the Examiner finds the function of FP#10 is:

(1) “identifying the locations of the plurality of node servers that have at least part of the requested content stored thereon.” Claim 10 (“**Function of FP#10.2**”); and

(2) “identifying the location of a plurality of node servers within the network that have at least part of the requested content stored thereon.” Claim 35 (“**Function of FP#10.2**”).

Control Number: 90/019,550  
Art Unit: 3992

Page 44

The two functions above will be referred to collectively as “**Function of FP#10**” throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#10 will have its ordinary meaning.

### **7.10.3. Prong (C)**

Based upon a review of FP#10, the Examiner finds that FP#10 does not contain sufficient structure for performing the *entire* Function of FP#10.

Because FP#10 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#10 meets Prong (C). Because FP#10 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#10 invokes § 112 ¶ 6.

### **7.10.4. Corresponding Structure for Functional Phrase #10**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#10 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#10.

The 376 Patent discloses “identifying the location of a plurality of node servers within the network that have at least part of the requested content stored thereon.” 376 Patent, C2:L38–39.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server

Control Number: 90/019,550

Page 45

Art Unit: 3992

software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#10 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#10 to an algorithm, and based on the fact that claims 10 and 35 already expressly recite the disclosed “core server,” the corresponding structure of the Function of FP#10 appears to be software (e.g., “core server software”).

### 7.11. Functional Phrase #11

The eleventh functional phrase to be considered is the following group of functional phrases:

(1) “means for selecting from the plurality of node servers one or more candidate node servers that are determined to be topologically proximate to the client.” Claim 10 (“**Functional Phrase #11.1**” or “**FP#11.1**”); and

(2) “means for selecting from the plurality of node servers one or more candidate node servers that are determined to be topologically proximate to the client.” Claim 35 (“**Functional Phrase #11.2**” or “**FP#11.2**”).

Control Number: 90/019,550

Page 46

Art Unit: 3992

The two functional phrases above will be referred to collectively as “**Functional Phrase #11**” or “**FP#11**” throughout the remainder of the analysis unless expressly noted otherwise.

#### **7.11.1. Prong (A)**

As an initial matter, the Examiner finds that FP#11 uses the term “means.” Therefore, FP#11 meets Prong (A).

#### **7.11.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#11 is:

(1) “selecting from the plurality of node servers one or more candidate node servers that are determined to be topologically proximate to the client.” Claim 10 (“**Function of FP#11.1**”); and

(2) “selecting from the plurality of node servers one or more candidate node servers that are determined to be topologically proximate to the client.” Claim 35 (“**Function of FP#11.2**”).

The two functions above will be referred to collectively as “**Function of FP#11**” throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#11 will have its ordinary meaning.

Control Number: 90/019,550  
Art Unit: 3992

Page 47

### 7.11.3. Prong (C)

Based upon a review of FP#11, the Examiner finds that FP#11 does not contain sufficient structure for performing the *entire* Function of FP#11.

Because FP#11 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#11 meets Prong (C). Because FP#11 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#11 invokes § 112 ¶ 6.

### 7.11.4. Corresponding Structure for Functional Phrase #11

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#11 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#11.

The 376 Patent discloses,

In particular, the invention can advantageously be implemented so that **the core server reviews a network topology database and selects candidate node server(s) based on an analysis of the topological relationship between the client and node servers** (and the core server, if the invention is so implemented) having some part or all of the requested content stored thereon. For example, as described in more detail below, **the core server can determine the topological proximity to the client of node servers** ( and, perhaps, the core server) having some part or all of the requested content stored thereon and **select as candidate node server(s) those node server(s) that are most topologically proximate to the client, as determined in accordance with a specified criterion or criteria.**

376 Patent, C5:L51–64 (emphasis added).

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

Control Number: 90/019,550  
Art Unit: 3992

Page 48

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner finds the above disclosure provides a clear link or association made between the Function of FP#11 and some corresponding structure (i.e., some algorithm) found in the specification. Particularly, the corresponding structure of the Function of FP#11 appears to be an algorithm comprising selecting as a candidate node server(s) the node server(s) that is *most* topologically proximate to the client, as determined in accordance with a specified criterion or criteria.

#### **7.12. Functional Phrase #12**

The twelfth functional phrase to be considered is the following group of functional phrases:

(1) “means for identifying a network site that will act as a node server for distribution of the specified content.” Claim 12 (“**Functional Phrase #12.1**” or “**FP#12.1**”); and

(2) “means for identifying a network site that will act as a node server for distribution of the specified content.” Claim 23 (“**Functional Phrase #12.2**” or “**FP#12.2**”).

The two functional phrases above will be referred to collectively as “**Functional Phrase #12**” or “**FP#12**” throughout the remainder of the analysis unless expressly noted otherwise.

Control Number: 90/019,550

Page 49

Art Unit: 3992

**7.12.1. Prong (A)**

As an initial matter, the Examiner finds that FP#12 uses the term “means.” Therefore, FP#12 meets Prong (A).

**7.12.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#12 is:

(1) “identifying a network site that will act as a node server for distribution of the specified content.” Claim 12 (“**Function of FP#12.1**”); and

(2) “identifying a network site that will act as a node server for distribution of the specified content.” Claim 23 (“**Function of FP#12.2**”).

The two functions above will be referred to collectively as “**Function of FP#12**” throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#12 will have its ordinary meaning.

**7.12.3. Prong (C)**

Based upon a review of FP#12, the Examiner finds that FP#12 does not contain sufficient structure for performing the *entire* Function of FP#12.

Because FP#12 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#12 meets Prong (C). Because FP#12 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#12 invokes § 112 ¶ 6.

Control Number: 90/019,550  
Art Unit: 3992

Page 50

#### **7.12.4. Corresponding Structure for Functional Phrase #12**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#12 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#12.

The 376 Patent discloses “The information in the topological database can also be used by a core server in identifying candidate node servers for possible transmission of requested content to a client.” 376 Patent, C16:L58–61.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner finds the above disclosure provides a clear link or association made between the Function of FP#12 and some corresponding structure found in the specification. Particularly, the corresponding structure of the Function of FP#12 appears to be a database having a list of node servers.

#### **7.13. Functional Phrase #13**

The thirteenth functional phrase to be considered is the following group of functional phrases:

Control Number: 90/019,550

Page 51

Art Unit: 3992

(1) “means for providing the specified content to the node server.” Claim 12

(“**Functional Phrase #13.1**” or “**FP#13.1**”); and

(2) “means for providing the specified content to the node server” Claim 23 (“**Functional Phrase #13.2**” or “**FP#13.2**”).

The two functional phrases above will be referred to collectively as “**Functional Phrase #13**” or “**FP#13**” throughout the remainder of the analysis unless expressly noted otherwise.

#### **7.13.1. Prong (A)**

As an initial matter, the Examiner finds that FP#13 uses the term “means.” Therefore, FP#13 meets Prong (A).

#### **7.13.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#13 is:

(1) “providing the specified content to the node server.” Claim 12 (“**Function of FP#13.1**”); and

(2) “providing the specified content to the node server” Claim 23 (“**Function of FP#13.2**”).

The two functions above will be referred to collectively as “**Function of FP#13**” throughout the remainder of the analysis unless expressly noted otherwise.

Control Number: 90/019,550  
Art Unit: 3992

Page 52

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#13 will have its ordinary meaning.

#### **7.13.3. Prong (C)**

Based upon a review of FP#13, the Examiner finds that FP#13 does not contain sufficient structure for performing the *entire* Function of FP#13.

Because FP#13 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#13 meets Prong (C). Because FP#13 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#13 invokes § 112 ¶ 6.

#### **7.13.4. Corresponding Structure for Functional Phrase #13**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#13 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#13.

The 376 Patent discloses “The core server software can enable the core server to provide content to node servers for eventual distribution to clients in accordance with the invention. (It is anticipated that it will typically be desirable to transmit the content from the core server to the node servers via the network; however, other methods can be used to distribute content from the core server to node servers, such as sending a data storage medium or media on which the content is stored through the mail.)” 376 Patent, C8:L16–24.

Control Number: 90/019,550  
Art Unit: 3992

Page 53

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner finds the above disclosure provides a clear link or association made between the Function of FP#13 and some corresponding structure (i.e., some algorithm) found in the specification. Particularly, the corresponding structure of the Function of FP#13 appears to be an algorithm comprising causing delivery of the content to the node server.

#### **7.14. Functional Phrase #14**

The fourteenth functional phrase to be considered is “means for storing data identifying available content that can be obtained by a client.” Claim 15 (“**Functional Phrase #14**” or “**FP#14**”).

##### **7.14.1. Prong (A)**

As an initial matter, the Examiner finds that FP#14 uses the term “means.” Therefore, FP#14 meets Prong (A).

Control Number: 90/019,550

Page 54

Art Unit: 3992

**7.14.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#14 is “storing data identifying available content that can be obtained by a client.” Claim 15 (“**Function of FP#14**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#14 will have its ordinary meaning.

**7.14.3. Prong (C)**

Based upon a review of FP#14, the Examiner finds that FP#14 does not contain sufficient structure for performing the *entire* Function of FP#14.

Because FP#14 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#14 meets Prong (C). Because FP#14 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#14 invokes § 112 ¶ 6.

**7.14.4. Corresponding Structure for Functional Phrase #14**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#14 is coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is not required for a general-purpose computer to perform the Function of FP#14. Accordingly, the corresponding structure for the Function of FP#14 is a general-purpose computer or microprocessor.

**7.15. Functional Phrase #15**

The fifteenth functional phrase to be considered is “means for providing an identification of available content to the client.” Claim 15 (“**Functional Phrase #15**” or “**FP#15**”).

**7.15.1. Prong (A)**

As an initial matter, the Examiner finds that FP#15 uses the term “means.” Therefore, FP#15 meets Prong (A).

**7.15.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#15 is “providing an identification of available content to the client.” Claim 15 (“**Function of FP#15**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#15 will have its ordinary meaning.

**7.15.3. Prong (C)**

Based upon a review of FP#15, the Examiner finds that FP#15 does not contain sufficient structure for performing the *entire* Function of FP#15.

Because FP#15 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#15 meets Prong (C). Because FP#15 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#15 invokes § 112 ¶ 6.

**7.15.4. Corresponding Structure for Functional Phrase #15**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#15 is not coextensive with a general-purpose

Control Number: 90/019,550

Page 56

Art Unit: 3992

computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#15.

The 376 Patent discloses “core server software enables display [] of information identifying the content available for transmission to a client.” 376 Patent, C8:L33–36.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...].” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner finds the above disclosure provides a clear link or association made between the Function of FP#15 and some corresponding structure (i.e., some algorithm) found in the specification. Particularly, the corresponding structure of the Function of FP#15 appears to be an algorithm comprising enabling display of information identifying the content available for transmission to a client.

#### **7.16. Functional Phrase #16**

The sixteenth functional phrase to be considered is “means for storing data identifying the location of the node server.” Claim 16 (“**Functional Phrase #16**” or “**FP#16**”).

##### **7.16.1. Prong (A)**

As an initial matter, the Examiner finds that FP#16 uses the term “means.” Therefore, FP#16 meets Prong (A).

Control Number: 90/019,550  
Art Unit: 3992

Page 57

#### **7.16.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#16 is “storing data identifying the location of the node server.” Claim 16 (“**Function of FP#16**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#16 will have its ordinary meaning.

#### **7.16.3. Prong (C)**

Based upon a review of FP#16, the Examiner finds that FP#16 does not contain sufficient structure for performing the *entire* Function of FP#16.

Because FP#16 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#16 meets Prong (C). Because FP#16 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#16 invokes § 112 ¶ 6.

#### **7.16.4. Corresponding Structure for Functional Phrase #16**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#16 is coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is not required for a general-purpose computer to perform the Function of FP#16. Accordingly, the corresponding structure for the Function of FP#16 is a general-purpose computer or microprocessor.

Control Number: 90/019,550  
Art Unit: 3992

Page 58

### **7.17. Functional Phrase #17**

The seventeenth functional phrase to be considered is “means for storing the specified content.” Claim 22 (“**Functional Phrase #17**” or “**FP#17**”).

#### **7.17.1. Prong (A)**

As an initial matter, the Examiner finds that FP#17 uses the term “means.” Therefore, FP#17 meets Prong (A).

#### **7.17.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#17 is “storing the specified content.” Claim 22 (“**Function of FP#17**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#17 will have its ordinary meaning.

#### **7.17.3. Prong (C)**

Based upon a review of FP#17, the Examiner finds that FP#17 does not contain sufficient structure for performing the *entire* Function of FP#17.

Because FP#17 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#17 meets Prong (C). Because FP#17 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#17 invokes § 112 ¶ 6.

#### **7.17.4. Corresponding Structure for Functional Phrase #17**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#17 is coextensive with a general-purpose

Control Number: 90/019,550

Page 59

Art Unit: 3992

computer or microprocessor. Therefore, the Examiner finds that special programming is not required for a general-purpose computer to perform the Function of FP#17. Accordingly, the corresponding structure for the Function of FP#17 is a general-purpose computer or microprocessor.

### **7.18. Functional Phrase #18**

The eighteenth functional phrase to be considered is “means for receiving a request to transmit the specified content to the client.” Claim 22 (“**Functional Phrase #18**” or “**FP#18**”).

#### **7.18.1. Prong (A)**

As an initial matter, the Examiner finds that FP#18 uses the term “means.” Therefore, FP#18 meets Prong (A).

#### **7.18.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#18 is “receiving a request to transmit the specified content to the client.” Claim 22 (“**Function of FP#18**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#18 will have its ordinary meaning.

#### **7.18.3. Prong (C)**

Based upon a review of FP#18, the Examiner finds that FP#18 does not contain sufficient structure for performing the *entire* Function of FP#18.

Control Number: 90/019,550

Page 60

Art Unit: 3992

Because FP#18 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#18 meets Prong (C). Because FP#18 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#18 invokes § 112 ¶ 6.

#### **7.18.4. Corresponding Structure for Functional Phrase #18**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#18 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#18.

The 376 Patent discloses “node server software accepts [...] requests for transmission of content.” 376 Patent, C12:L5–6.

The 376 Patent discloses “a node server of a system according to the invention can be embodied by a personal computer that operates in accordance with node server software that performs the functions of a node server.” 376 Patent, C11:L25–28.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#18 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#18 to an algorithm, and based on the fact that claim 22 already expressly recites the disclosed “node server,” the corresponding structure of FP#18 appears to be software (e.g., “node server software”).

Control Number: 90/019,550  
Art Unit: 3992

Page 61

### **7.19. Functional Phrase #19**

The nineteenth functional phrase to be considered is “means for transmitting the specified content to the client.” Claim 22 (“**Functional Phrase #19**” or “**FP#19**”).

#### **7.19.1. Prong (A)**

As an initial matter, the Examiner finds that FP#19 uses the term “means.” Therefore, FP#19 meets Prong (A).

#### **7.19.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#19 is “transmitting the specified content to the client.” Claim 22 (“**Function of FP#19**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#19 will have its ordinary meaning.

#### **7.19.3. Prong (C)**

Based upon a review of FP#19, the Examiner finds that FP#19 does not contain sufficient structure for performing the *entire* Function of FP#19.

Because FP#19 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#19 meets Prong (C). Because FP#19 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#19 invokes § 112 ¶ 6.

#### **7.19.4. Corresponding Structure for Functional Phrase #19**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#19 is not coextensive with a general-purpose

Control Number: 90/019,550  
Art Unit: 3992

Page 62

computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#19.

The 376 Patent discloses “the node server(s) transmit the content (directly or indirectly) to the client.” 376 Patent, C13:L3–4.

The 376 Patent discloses “a node server of a system according to the invention can be embodied by a personal computer that operates in accordance with node server software that performs the functions of a node server.” 376 Patent, C11:L25–28.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#19 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#19 to an algorithm, and based on the fact that claim 22 already expressly recites the disclosed “node server,” the corresponding structure of FP#19 appears to be software (e.g., “node server software”).

## **7.20. Functional Phrase #20**

The twentieth functional phrase to be considered is “means for receiving the specified content from the core server.” Claim 23 (“**Functional Phrase #20**” or “**FP#20**”).

### **7.20.1. Prong (A)**

As an initial matter, the Examiner finds that FP#20 uses the term “means.” Therefore, FP#20 meets Prong (A).

Control Number: 90/019,550  
Art Unit: 3992

Page 63

#### **7.20.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#20 is “receiving the specified content from the core server.” Claim 23 (“**Function of FP#20**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#20 will have its ordinary meaning.

#### **7.20.3. Prong (C)**

Based upon a review of FP#20, the Examiner finds that FP#20 does not contain sufficient structure for performing the *entire* Function of FP#20.

Because FP#20 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#20 meets Prong (C). Because FP#20 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#20 invokes § 112 ¶ 6.

#### **7.20.4. Corresponding Structure for Functional Phrase #20**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#20 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#20.

The 376 Patent discloses,

The node server software can enable a node server to acquire content from a core server. (As indicated above, it is anticipated that it will typically be desirable to transmit the content from the core server to the node servers via the network; however, other distribution methods can be used.) When the invention is implemented on the Internet, for example, this aspect of the node server software can be embodied by a conventional Web browser that enables the node server to

Control Number: 90/019,550

Page 64

Art Unit: 3992

access a Web site maintained on the core server to download content that it has been agreed that the node server will store for possible distribution to clients.

376 Patent, C11:L56–66.

Based upon a review of the 376 Patent, the Examiner finds the above disclosure provides a clear link or association made between the Function of FP#20 and some corresponding structure (i.e., some algorithm) found in the specification. Particularly, the corresponding structure of the Function of FP#20 appears to be an algorithm comprising downloading the specified content from the core server.

#### **7.21. Functional Phrase #21**

The twenty-first functional phrase to be considered is the following group of functional phrases:

(1) “means for transmitting the request for the specified content to the core server.”

Claim 27 (“**Functional Phrase #21.1**” or “**FP#21.1**”); and

(2) “means for transmitting the request for the specified content to the core server.”

Claim 29 (“**Functional Phrase #21.2**” or “**FP#21.2**”).

The two functional phrases above will be referred to collectively as “**Functional Phrase #21**” or “**FP#21**” throughout the remainder of the analysis unless expressly noted otherwise.

##### **7.21.1. Prong (A)**

As an initial matter, the Examiner finds that FP#21 uses the term “means.” Therefore, FP#21 meets Prong (A).

Control Number: 90/019,550  
Art Unit: 3992

Page 65

### **7.21.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#21 is:

- (1) “transmitting the request for the specified content to the core server.” Claim 27  
(“**Function of FP#21.1**”); and
- (2) “transmitting the request for the specified content to the core server.” Claim 29  
(“**Function of FP#21.2**”).

The two functions above will be referred to collectively as “**Function of FP#21**” throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#21 will have its ordinary meaning.

### **7.21.3. Prong (C)**

Based upon a review of FP#21, the Examiner finds that FP#21 does not contain sufficient structure for performing the *entire* Function of FP#21.

Because FP#21 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#21 meets Prong (C). Because FP#21 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#21 invokes § 112 ¶ 6.

Control Number: 90/019,550  
Art Unit: 3992

Page 66

#### **7.21.4. Corresponding Structure for Functional Phrase #21**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#21 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#21.

The 376 Patent discloses “In step 202, the client communicates with the core server to request transmission of particular content.” 376 Patent, C5:L38–39.

The 376 Patent discloses “The hardware used to implement a [...] client operates in accordance with software and/or firmware that produces the functionality of the [...] client. (For convenience, software and/or firmware for producing the functionality of a [...] client is sometimes referred to herein as [...] ‘client software,’ respectively.)” 376 Patent, C7:L21–28.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#21 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#21 to an algorithm, and based on the fact that claims 27 and 29 already expressly recite the disclosed “client,” the corresponding structure of the Function of FP#21 appears to be software (e.g., “client software”).

#### **7.22. Functional Phrase #22**

The twenty-second functional phrase to be considered is the following group of functional phrases:

(1) “means for receiving the identity of the node server from the core server.” Claim 27 (“**Functional Phrase #22.1**” or “**FP#22.1**”); and

Control Number: 90/019,550

Page 67

Art Unit: 3992

(2) “means for receiving the identity of the node server from the core server.” Claim 29 (“**Functional Phrase #22.2**” or “**FP#22.2**”).

The two functional phrases above will be referred to collectively as “**Functional Phrase #22**” or “**FP#22**” throughout the remainder of the analysis unless expressly noted otherwise.

#### **7.22.1. Prong (A)**

As an initial matter, the Examiner finds that FP#22 uses the term “means.” Therefore, FP#22 meets Prong (A).

#### **7.22.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#22 is:

(1) “receiving the identity of the node server from the core server.” Claim 27 (“**Function of FP#22.1**”); and

(2) “receiving the identity of the node server from the core server.” Claim 29 (“**Function of FP#22.2**”).

The two functions above will be referred to collectively as “**Function of FP#22**” throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#22 will have its ordinary meaning.

Control Number: 90/019,550  
Art Unit: 3992

Page 68

### **7.22.3. Prong (C)**

Based upon a review of FP#22, the Examiner finds that FP#22 does not contain sufficient structure for performing the *entire* Function of FP#22.

Because FP#22 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#22 meets Prong (C). Because FP#22 meets the 3 Prong Analysis as set forth in MPEP § 2281 I., the Examiner concludes that FP#22 invokes § 112 ¶ 6.

### **7.22.4. Corresponding Structure for Functional Phrase #22**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#22 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#22.

The 376 Patent discloses “In step 204, the core server communicates the identity of the candidate node server(s) to the client.” 376 Patent, C6:L15–16.

The 376 Patent discloses “The hardware used to implement a [...] client operates in accordance with software and/or firmware that produces the functionality of the [...] client. (For convenience, software and/or firmware for producing the functionality of a [...] client is sometimes referred to herein as [...] ‘client software,’ respectively.)” 376 Patent, C7:L22–28.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#22 and some corresponding structure (i.e., some algorithm) found in the specification.

Control Number: 90/019,550

Page 69

Art Unit: 3992

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#22 to an algorithm, and based on the fact that claims 27 and 29 already expressly recite the disclosed “client,” the corresponding structure of the Function of FP#22 appears to be software (e.g., “client software”).

### 7.23. Functional Phrase #23

The twenty-third functional phrase to be considered is the following group of functional phrases:

- (1) “means for receiving the specified content from the node server.” Claim 27 (“**Functional Phrase #23.1**” or “**FP#23.1**”); and
- (2) “means for receiving the specified content from the node server.” Claim 29 (“**Functional Phrase #23.2**” or “**FP#23.2**”).

The two functional phrases above will be referred to collectively as “**Functional Phrase #23**” or “**FP#23**” throughout the remainder of the analysis unless expressly noted otherwise.

#### 7.23.1. Prong (A)

As an initial matter, the Examiner finds that FP#23 uses the term “means.” Therefore, FP#23 meets Prong (A).

#### 7.23.2. Prong (B)

Based upon the claim language itself, the Examiner finds the function of FP#23 is:

Control Number: 90/019,550

Page 70

Art Unit: 3992

(1) “receiving the specified content from the node server.” Claim 27 (“**Function of FP#23.1**”); and

(2) “receiving the specified content from the node server.” Claim 29 (“**Function of FP#23.2**”).

The two functions above will be referred to collectively as “**Function of FP#23**” throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#23 will have its ordinary meaning.

#### **7.23.3. Prong (C)**

Based upon a review of FP#23, the Examiner finds that FP#23 does not contain sufficient structure for performing the *entire* Function of FP#23.

Because FP#23 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#23 meets Prong (C). Because FP#23 meets the 3 Prong Analysis as set forth in MPEP § 2381 I., the Examiner concludes that FP#23 invokes § 112 ¶ 6.

#### **7.23.4. Corresponding Structure for Functional Phrase #23**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#23 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#23.

Control Number: 90/019,550  
Art Unit: 3992

Page 71

The 376 Patent discloses “Once the client software has selected node server(s) for delivery of the requested content, the client communicates with the selected node server(s) to schedule and download the content.” 376 Patent, C14:L61–64.

The 376 Patent discloses “The hardware used to implement a [...] client operates in accordance with software and/or firmware that produces the functionality of the [...] client. (For convenience, software and/or firmware for producing the functionality of a [...] client is sometimes referred to herein as [...] ‘client software,’ respectively.)” 376 Patent, C7:L23–28.

Based upon a review of the 376 Patent, the Examiner finds the above disclosure provides a clear link or association made between the Function of FP#23 and some corresponding structure (i.e., some algorithm) found in the specification. Particularly, the corresponding structure of the Function of FP#23 appears to be an algorithm comprising downloading the specified content from the node server.

#### **7.24. Functional Phrase #24**

The twenty-fourth functional phrase to be considered is “means for transmitting a request to the node server to transmit the specified content to the client.” Claim 30 (“**Functional Phrase #24**” or “**FP#24**”).

##### **7.24.1. Prong (A)**

As an initial matter, the Examiner finds that FP#24 uses the term “means.” Therefore, FP#24 meets Prong (A).

Control Number: 90/019,550

Page 72

Art Unit: 3992

**7.24.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#24 is “transmitting a request to the node server to transmit the specified content to the client.” Claim 30 (“**Function of FP#24**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#24 will have its ordinary meaning.

**7.24.3. Prong (C)**

Based upon a review of FP#24, the Examiner finds that FP#24 does not contain sufficient structure for performing the *entire* Function of FP#24.

Because FP#24 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#24 meets Prong (C). Because FP#24 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#24 invokes § 112 ¶ 6.

**7.24.4. Corresponding Structure for Functional Phrase #24**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#24 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#24.

The 376 Patent discloses “In step 206, the client contacts the selected node server(s) to request transmission of the content.” 376 Patent, C6:L30–31.

The 376 Patent discloses “The hardware used to implement a [...] client operates in accordance with software and/or firmware that produces the functionality of the [...] client. (For

Control Number: 90/019,550

Page 73

Art Unit: 3992

convenience, software and/or firmware for producing the functionality of a [...] client is sometimes referred to herein as [...] ‘client software,’ respectively.)” 376 Patent, C7:L23–28.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#24 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#24 to an algorithm, and based on the fact that claim 30 already expressly recites the disclosed “client,” the corresponding structure of the Function of FP#24 appears to be software (e.g., “client software”).

#### **7.25. Functional Phrase #25**

The twenty-fifth functional phrase to be considered is “means for monitoring the characteristics of the transmission of the specified content from the node server to obtain auditing information regarding the transmission of the specified content from the node server to the client.” Claim 31 (“**Functional Phrase #25**” or “**FP#25**”).

##### **7.25.1. Prong (A)**

As an initial matter, the Examiner finds that FP#25 uses the term “means.” Therefore, FP#25 meets Prong (A).

##### **7.25.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#25 is “monitoring the characteristics of the transmission of the specified content from the node server

Control Number: 90/019,550

Page 74

Art Unit: 3992

to obtain auditing information regarding the transmission of the specified content from the node server to the client.” Claim 31 (“**Function of FP#25**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#25 will have its ordinary meaning.

### **7.25.3. Prong (C)**

Based upon a review of FP#25, the Examiner finds that FP#25 does not contain sufficient structure for performing the *entire* Function of FP#25.

Because FP#25 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#25 meets Prong (C). Because FP#25 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#25 invokes § 112 ¶ 6.

### **7.25.4. Corresponding Structure for Functional Phrase #25**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#25 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#25.

The 376 Patent discloses “the client can communicate information to the core server regarding the characteristics of the content delivery, such as the bandwidth and/or latency performance associated with the content delivery.” 376 Patent, C6:L59–62.

The 376 Patent discloses,

The invention can be implemented to enable a client and/or a node server to communicate auditing data to the core server regarding delivery of particular content. The auditing data can include identification of the content delivered, the node server(s) from which content was delivered, and the client to which the

Control Number: 90/019,550

Page 75

Art Unit: 3992

content was delivered. The auditing data can also include information regarding the characteristics of the content delivery, such as when the content was delivered, the bandwidth and/ or latency performance associated with the content delivery, and identification of any transmission problems during the content delivery.

376 Patent, C21:L64–C22:L7.

The 376 Patent discloses “The hardware used to implement a [...] client operates in accordance with software and/or firmware that produces the functionality of the [...] client. (For convenience, software and/or firmware for producing the functionality of a [...] client is sometimes referred to herein as [...] ‘client software,’ respectively.)” 376 Patent, C7:L23–28.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#25 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#25 to an algorithm, and based on the fact that claim 31 already expressly recites the disclosed “client,” the corresponding structure of the Function of FP#25 appears to be software (e.g., “client software”).

## **7.26. Functional Phrase #26**

The twenty-sixth functional phrase to be considered is “means for transmitting the auditing information to the core server.” Claim 31 (“**Functional Phrase #26**” or “**FP#26**”).

### **7.26.1. Prong (A)**

As an initial matter, the Examiner finds that FP#26 uses the term “means.” Therefore, FP#26 meets Prong (A).

Control Number: 90/019,550  
Art Unit: 3992

Page 76

#### **7.26.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#26 is “transmitting the auditing information to the core server.” Claim 31 (“**Function of FP#26**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#26 will have its ordinary meaning.

#### **7.26.3. Prong (C)**

Based upon a review of FP#26, the Examiner finds that FP#26 does not contain sufficient structure for performing the *entire* Function of FP#26.

Because FP#26 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#26 meets Prong (C). Because FP#26 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#26 invokes § 112 ¶ 6.

#### **7.26.4. Corresponding Structure for Functional Phrase #26**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#26 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#26.

The 376 Patent discloses “the client can communicate information to the core server regarding the characteristics of the content delivery, such as the bandwidth and/or latency performance associated with the content delivery.” 376 Patent, C6:L59–62.

The 376 Patent discloses,

The invention can be implemented to enable a client and/or a node server to communicate auditing data to the core server regarding delivery of particular

Control Number: 90/019,550

Page 77

Art Unit: 3992

content. The auditing data can include identification of the content delivered, the node server(s) from which content was delivered, and the client to which the content was delivered. The auditing data can also include information regarding the characteristics of the content delivery, such as when the content was delivered, the bandwidth and/ or latency performance associated with the content delivery, and identification of any transmission problems during the content delivery.

376 Patent, C21:L64–C22:L7.

The 376 Patent discloses “The hardware used to implement a [...] client operates in accordance with software and/or firmware that produces the functionality of the [...] client. (For convenience, software and/or firmware for producing the functionality of a [...] client is sometimes referred to herein as [...] ‘client software,’ respectively.)” 376 Patent, C7:L23–28.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#26 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#26 to an algorithm, and based on the fact that claim 31 already expressly recites the disclosed “client,” the corresponding structure of the Function of FP#26 appears to be software (e.g., “client software”).

## 7.27. Functional Phrase #27

The twenty-seventh functional phrase to be considered is the following group of functional phrases:

(1) “instructions for receiving a request from a client for specified content.” Claim 37 (“**Functional Phrase #27.1**” or “**FP#27.1**”);

(2) “instructions for receiving a request for content from a client.” Claim 55 (“**Functional Phrase #27.2**” or “**FP#27.2**”); and

Control Number: 90/019,550  
 Art Unit: 3992

Page 78

(3) “instructions for receiving a request from a client that is part of the network for transmission of a set of content to the client.” Claim 56 (“**Functional Phrase #27.3**” or “**FP#27.3**”).

The three functional phrases above will be referred to collectively as “**Functional Phrase #27**” or “**FP#27**” throughout the remainder of the analysis unless expressly noted otherwise.

#### 7.27.1. Prong (A)

In accordance with the MPEP, Prong (A) requires “the claim limitation uses the term ‘means’ [...] or a term used as a substitute for ‘means’ that is a generic placeholder [...] for performing the claimed function.” MPEP § 2181 I. (“**Prong (A)**”).<sup>3</sup>

As an initial matter, the Examiner finds that FP#27 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#27 is a generic placeholder for “means.”

In assessing whether or not FP#27 meets Prong (A), the Examiner must not only consider the introductory phrase “instructions,” but the entire FP#27. “In assessing whether the claim limitation is in means-plus-function format, we do not merely consider the introductory phrase (e.g., ‘mechanical control assembly’) in isolation, but look to **the entire passage** including

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<sup>3</sup> See also *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1349 (Fed. Cir. 2015) (*en banc*) quoting *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed Cir. 2000) where the CAFC set forth the standard for determining if a functional phrase overcomes the presumption that § 112, ¶ 6 is not invoked (i.e., invokes 112, ¶ 6) when a phrase does not use the word “means.”

Control Number: 90/019,550

Page 79

Art Unit: 3992

**functions performed by the introductory phrase.”** *MTD Prods. Inc. v. Iancu*, 933 F.3d 1336, 1342 (Fed. Cir. 2019) (emphasis added).

The Examiner has looked to both general and subject matter specific dictionaries<sup>4</sup> and finds no evidence that the term “instructions” has achieved recognition as a term denoting structure. Similarly, the Examiner’s review of the record and review of the prior art of record finds no evidence that this term has achieved recognition as denoting structure. Therefore, based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and claim 37 does not recite any other structure that would perform this claimed function. Therefore, FP#27 meets Prong (A).

#### **7.27.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#27 is:

(1) “receiving a request from a client for specified content.” Claim 37 (“**Function of FP#27.1**”);

(2) “receiving a request for content from a client.” Claim 55 (“**Function of FP#27.2**”);  
and

(3) “receiving a request from a client that is part of the network for transmission of a set of content to the client.” Claim 56 (“**Function of FP#27.3**”).

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<sup>4</sup> Microsoft Computer Dictionary (3rd ed. 1997) (Microsoft Press); The American Heritage Dictionary of the English Language (3rd ed. 1992).

Control Number: 90/019,550  
Art Unit: 3992

Page 80

The three functions above will be referred to collectively as “**Function of FP#27**” throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#27 will have its ordinary meaning.

### **7.27.3. Prong (C)**

Based upon a review of FP#27, the Examiner finds that FP#27 does not contain sufficient structure for performing the *entire* Function of FP#27. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#27 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#27 meets Prong (C). Because FP#27 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#27 invokes § 112 ¶ 6.

### **7.27.4. Corresponding Structure for Functional Phrase #27**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#27 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#27.

Control Number: 90/019,550  
Art Unit: 3992

Page 81

The 376 Patent discloses “core server software accepts [...] requests for content.” 376 Patent, C8:L47–48.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#27 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#27 to an algorithm, and based on the fact that claims 37, 55, and 56 are limited to a “medium or media encoded with one or more computer programs including instructions,” the corresponding structure of FP#1 appears to be software (e.g., “core server software”).

## **7.28. Functional Phrase #28**

The twenty-eighth functional phrase to be considered is the following group of functional phrases:

(1) “instructions for communicating to the client the identity of a node server having the specified content stored thereon, thereby enabling the client to request transmission of the specified content from the node server.” Claim 37 (“**Functional Phrase #28.1**” or “**FP#28.1**”);

Control Number: 90/019,550  
Art Unit: 3992

Page 82

(2) “instructions for communicating the identity of the candidate node servers to the client to enable the client to request transmission of the specified content via the network from one or more of the candidate node servers.” Claim 41 (“**Functional Phrase #28.2**” or “**FP#28.2**”);

(3) “instructions for communicating the identity of the candidate node server to the client to enable the client to request transmission of the requested content via the network from one or more of the candidate node servers.” Claim 55 (“**Functional Phrase #28.3**” or “**FP#28.3**”); and

(4) “instructions for communicating the identity of the candidate node servers to the client to enable the client to request transmission of the requested content via the network from one or more of the candidate node servers.” Claim 56 (“**Functional Phrase #28.4**” or “**FP#28.4**”).

The four functional phrases above will be referred to collectively as “**Functional Phrase #28**” or “**FP#28**” throughout the remainder of the analysis unless expressly noted otherwise.

#### **7.28.1. Prong (A)**

As an initial matter, the Examiner finds that FP#28 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#28 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized

Control Number: 90/019,550

Page 83

Art Unit: 3992

structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#28 meets Prong (A).

### 7.28.2. Prong (B)

Based upon the claim language itself, the Examiner finds the function of FP#28 is:

(1) “communicating to the client the identity of a node server having the specified content stored thereon, thereby enabling the client to request transmission of the specified content from the node server.” Claim 37 (“**Function of FP#28.1**”);

(2) “communicating the identity of the candidate node servers to the client to enable the client to request transmission of the specified content via the network from one or more of the candidate node servers.” Claim 41 (“**Function of FP#28.2**”);

(3) “communicating the identity of the candidate node server to the client to enable the client to request transmission of the requested content via the network from one or more of the candidate node servers.” Claim 55 (“**Function of FP#28.3**”); and

(4) “communicating the identity of the candidate node servers to the client to enable the client to request transmission of the requested content via the network from one or more of the candidate node servers.” Claim 56 (“**Function of FP#28.4**”).

The four functions above will be referred to collectively as “**Function of FP#28**” throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#28 will have its ordinary meaning.

Control Number: 90/019,550  
Art Unit: 3992

Page 84

### **7.28.3. Prong (C)**

Based upon a review of FP#28, the Examiner finds that FP#28 does not contain sufficient structure for performing the *entire* Function of FP#28. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#28 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#28 meets Prong (C). Because FP#28 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#28 invokes § 112 ¶ 6.

### **7.28.4. Corresponding Structure for Functional Phrase #28**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#28 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#28.

The 376 Patent discloses “the core server communicates the identity of the candidate node server(s) to the client.” 376 Patent, C6:L15–16.

The 376 Patent discloses “the core server can respond to the request by providing to the client a list of one or more candidate node server(s) from each of which some part or all of the content can be obtained.” 376 Patent, C8:L50–53.

Control Number: 90/019,550  
Art Unit: 3992

Page 85

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#28 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#28 to an algorithm, and based on the fact that claim 37 (and claims 41, 55, and 56) is limited to a “medium or media encoded with one or more computer programs including instructions,” the corresponding structure of FP#28 appears to be software (e.g., “core server software”).

## **7.29. Functional Phrase #29**

The twenty-ninth functional phrase to be considered is the following group of functional phrases:

(1) “instructions for ascertaining that the node server transmitted the specified content to the client.” Claim 37 (“**Functional Phrase #29.1**” or “**FP#29.1**”);

(2) “instructions for ascertaining which of the one or more of the candidate node servers transmitted requested content to the client.” Claim 55 (“**Functional Phrase #29.2**” or “**FP#29.2**”); and

Control Number: 90/019,550

Page 86

Art Unit: 3992

(3) “instructions for ascertaining which of the one or more of the candidate node servers transmitted requested content to the client.” Claim 56 (“**Functional Phrase #29.3**” or “**FP#29.3**”).

The three functional phrases above will be referred to collectively as “**Functional Phrase #29**” or “**FP#29**” throughout the remainder of the analysis unless expressly noted otherwise.

#### **7.29.1. Prong (A)**

As an initial matter, the Examiner finds that FP#29 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#29 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#29 meets Prong (A).

#### **7.29.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#29 is:

(1) “ascertaining that the node server transmitted the specified content to the client.” Claim 37 (“**Function of FP#29.1**”);

(2) “ascertaining which of the one or more of the candidate node servers transmitted requested content to the client.” Claim 55 (“**Function of FP#29.2**”); and

Control Number: 90/019,550

Page 87

Art Unit: 3992

(3) “ascertaining which of the one or more of the candidate node servers transmitted requested content to the client.” Claim 56 (“**Function of FP#29.3**”).

The three functions above will be referred to collectively as “**Function of FP#29**” throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#29 will have its ordinary meaning.

#### **7.29.3. Prong (C)**

Based upon a review of FP#29, the Examiner finds that FP#29 does not contain sufficient structure for performing the *entire* Function of FP#29. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#29 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#29 meets Prong (C). Because FP#29 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#29 invokes § 112 ¶ 6.

#### **7.29.4. Corresponding Structure for Functional Phrase #29**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#29 is not coextensive with a general-purpose

Control Number: 90/019,550

Page 88

Art Unit: 3992

computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#29.

The 376 Patent discloses “the client communicates with the core server regarding the success of the delivery of the requested content,” for example, “the client can indicate to the core server whether the content was delivered or not.” C6:L52–55.

The 376 Patent discloses that “[a]lternatively, some or all of the information regarding delivery of content from a node server to the client can be communicated to the core server by the node server.” C6:L62–65.

The 376 Patent discloses “the core server software can audit the delivery of content by node servers and receipt [...] of content by clients. [...]. The auditing information can include, for example, data regarding which content was viewed by a client or distributed by a node server [...].” 376 Patent, C9:L19–38.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...].” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#29 and some corresponding structure (i.e., some algorithm) found in the specification.

Control Number: 90/019,550

Page 89

Art Unit: 3992

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#29 to an algorithm, and based on the fact that claims 37, 55, and 56 are limited to a “medium or media encoded with one or more computer programs including instructions,” the corresponding structure of the Function of FP#29 appears to be an algorithm comprising, after delivery of specified content from the node server to the client, auditing a message from the client and/or the node server indicating whether the content was delivered from the node server.

### **7.30. Functional Phrase #30**

The thirtieth functional phrase to be considered is “instructions for obtaining information regarding the characteristics of the transmission of the content.” Claim 38 (“**Functional Phrase #30**” or “**FP#30**”).

#### **7.30.1. Prong (A)**

As an initial matter, the Examiner finds that FP#30 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#30 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#30 meets Prong (A).

Control Number: 90/019,550

Page 90

Art Unit: 3992

**7.30.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#30 is “obtaining information regarding the characteristics of the transmission of the content.” Claim 38 (“**Function of FP#30**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#30 will have its ordinary meaning.

**7.30.3. Prong (C)**

Based upon a review of FP#30, the Examiner finds that FP#30 does not contain sufficient structure for performing the *entire* Function of FP#30. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#30 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#30 meets Prong (C). Because FP#30 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#30 invokes § 112 ¶ 6.

**7.30.4. Corresponding Structure for Functional Phrase #30**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#30 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#30.

Control Number: 90/019,550  
Art Unit: 3992

Page 91

The 376 Patent discloses “the core server software can audit the delivery of content by node servers and receipt [...] of content by clients.” 376 Patent, C9:L19–21 (emphasis added).

The 376 Patent discloses “The auditing information can include, for example, data regarding which content was viewed by a client or distributed by a node server, when the content was viewed by a client or distributed by a node server, and the amount of the payment due from the client or incentive due to the node server. The auditing information may also include data regarding the characteristics of the content delivery, such as, for example, the bandwidth and/or latency performance associated with the content delivery or, when video content is delivered, the frame rate of the video produced from the delivered video content.” 376 Patent, C9:L33–43 (emphasis added).

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#30 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#30 to an algorithm, and based on the fact that claim 38 is limited to a “medium or media [encoded with one or more computer programs including instructions],” the corresponding structure of the Function of FP#30 appears to be an algorithm comprising receiving auditing information comprising characteristics of the transmission of the content.

### **7.31. Functional Phrase #31**

The thirty-first functional phrase to be considered is “instructions for obtaining information regarding when the content was delivered.” Claim 39 (“**Functional Phrase #31**” or “**FP#31**”).

Control Number: 90/019,550  
Art Unit: 3992

Page 92

### 7.31.1. Prong (A)

As an initial matter, the Examiner finds that FP#31 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#31 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#31 meets Prong (A).

### 7.31.2. Prong (B)

Based upon the claim language itself, the Examiner finds the function of FP#31 is “obtaining information regarding when the content was delivered.” Claim 39 (“**Function of FP#31**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#31 will have its ordinary meaning.

### 7.31.3. Prong (C)

Based upon a review of FP#31, the Examiner finds that FP#31 does not contain sufficient structure for performing the *entire* Function of FP#31. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not

Control Number: 90/019,550

Page 93

Art Unit: 3992

implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#31 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#31 meets Prong (C). Because FP#31 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#31 invokes § 112 ¶ 6.

#### **7.31.4. Corresponding Structure for Functional Phrase #31**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#31 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#31.

The 376 Patent discloses “the core server software can audit the delivery of content by node servers and receipt [...] of content by clients.” 376 Patent, C9:L19–21 (emphasis added).

The 376 Patent discloses “The auditing information can include, for example, data regarding which content was viewed by a client or distributed by a node server, when the content was viewed by a client or distributed by a node server, and the amount of the payment due from the client or incentive due to the node server. The auditing information may also include data regarding the characteristics of the content delivery, such as, for example, the bandwidth and/or latency performance associated with the content delivery or, when video content is delivered, the frame rate of the video produced from the delivered video content.” 376 Patent, C9:L33–43 (emphasis added).

Control Number: 90/019,550

Page 94

Art Unit: 3992

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#31 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#31 to an algorithm, and based on the fact that claim 39 is limited to a “medium or media [encoded with one or more computer programs including instructions],” the corresponding structure of the Function of FP#31 appears to be an algorithm comprising receiving auditing information comprising when the content was delivered.

### **7.32. Functional Phrase #32**

The thirty-second functional phrase to be considered is “instructions for obtaining information regarding the bandwidth and/or latency performance associated with the transmission of the content.” Claim 40 (“**Functional Phrase #32**” or “**FP#32**”).

#### **7.32.1. Prong (A)**

As an initial matter, the Examiner finds that FP#32 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#32 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#32 meets Prong (A).

**7.32.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#32 is “obtaining information regarding the bandwidth and/or latency performance associated with the transmission of the content.” Claim 40 (“**Function of FP#32**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#32 will have its ordinary meaning.

**7.32.3. Prong (C)**

Based upon a review of FP#32, the Examiner finds that FP#32 does not contain sufficient structure for performing the *entire* Function of FP#32. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#32 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#32 meets Prong (C). Because FP#32 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#32 invokes § 112 ¶ 6.

**7.32.4. Corresponding Structure for Functional Phrase #32**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#32 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#32.

Control Number: 90/019,550  
Art Unit: 3992

Page 96

The 376 Patent discloses “the core server software can audit the delivery of content by node servers and receipt [...] of content by clients.” 376 Patent, C9:L19–21 (emphasis added).

The 376 Patent discloses “The auditing information can include, for example, data regarding which content was viewed by a client or distributed by a node server, when the content was viewed by a client or distributed by a node server, and the amount of the payment due from the client or incentive due to the node server. The auditing information may also include data regarding the characteristics of the content delivery, such as, for example, the bandwidth and/or latency performance associated with the content delivery or, when video content is delivered, the frame rate of the video produced from the delivered video content.” 376 Patent, C9:L33–43 (emphasis added).

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#32 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#32 to an algorithm, and based on the fact that claim 40 is limited to a “medium or media [encoded with one or more

Control Number: 90/019,550  
Art Unit: 3992

Page 97

computer programs including instructions],” the corresponding structure of the Function of FP#32 appears to be software (e.g., “core server software”).

### 7.33. Functional Phrase #33

The thirty-third functional phrase to be considered is the following group of functional phrases:

(1) “instructions for identifying a plurality of node servers within the network that have at least part of the requested content stored thereon.” Claim 41 (“**Functional Phrase #33.1**” or “**FP#33.1**”); and

(2) “instructions for identifying which of a plurality of sets of content or parts of the plurality of sets of content are stored by each of a plurality of node servers that are part of the network.” Claim 56 (“**Functional Phrase #33.2**” or “**FP#33.2**”).

The two functional phrases above will be referred to collectively as “**Functional Phrase #33**” or “**FP#33**” throughout the remainder of the analysis unless expressly noted otherwise.

#### 7.33.1. Prong (A)

As an initial matter, the Examiner finds that FP#33 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#33 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized

Control Number: 90/019,550  
Art Unit: 3992

Page 98

structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#33 meets Prong (A).

### **7.33.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#33 is:

(1) “identifying a plurality of node servers within the network that have at least part of the requested content stored thereon.” Claim 41 (“**Function of FP#33.1**”); and

(2) “identifying which of a plurality of sets of content or parts of the plurality of sets of content are stored by each of a plurality of node servers that are part of the network.” Claim 56 (“**Function of FP#33.2**”).

The two functions above will be referred to collectively as “**Function of FP#33**” throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#33 will have its ordinary meaning.

### **7.33.3. Prong (C)**

Based upon a review of FP#33, the Examiner finds that FP#33 does not contain sufficient structure for performing the *entire* Function of FP#33. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not

Control Number: 90/019,550

Page 99

Art Unit: 3992

implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#33 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#33 meets Prong (C). Because FP#33 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#33 invokes § 112 ¶ 6.

#### **7.33.4. Corresponding Structure for Functional Phrase #33**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#33 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#33.

The 376 Patent discloses “the core server identifies one or more node servers (‘candidate node server(s)’) from which the client can obtain some part or all of the requested content. [...]. In particular [...] the core server reviews a network topology database and selects candidate node server(s) based on an analysis of the topological relationship between the client and node servers [...] having some part or all of the requested content stored thereon.” 376 Patent, C5:L46–57 (emphasis added).

The 376 Patent discloses “A core server also stores and updates account information for clients and/or node servers [...] to keep track of the content provided by a network site acting as a node server.” 376 Patent, C9:L22–28 (emphasis added).

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server

Control Number: 90/019,550

Page 100

Art Unit: 3992

software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#33 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#33 to an algorithm, and based on the fact that claims 41 and 56 are limited to a “medium or media [encoded with one or more computer programs including instructions],” the corresponding structure of the Function of FP#33 appears to be an algorithm comprising maintaining a database that tracks the content provided by each node server.

#### **7.34. Functional Phrase #34**

The thirty-fourth functional phrase to be considered is the following group of functional phrases:

(1) “instructions for selecting from the plurality of node servers one or more candidate node servers.” Claim 41 (“**Functional Phrase #34.1**” or “**FP#34.2**”); and

(2) “instructions for selecting from the plurality of node servers one or more candidate node servers that have stored thereon at least part of the requested set of content.” Claim 56 (“**Functional Phrase #34.2**” or “**FP#34.2**”).

Control Number: 90/019,550  
Art Unit: 3992

Page 101

The two functional phrases above will be referred to collectively as “**Functional Phrase #34**” or “**FP#34**” throughout the remainder of the analysis unless expressly noted otherwise.

#### **7.34.1. Prong (A)**

As an initial matter, the Examiner finds that FP#34 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#34 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#34 meets Prong (A).

#### **7.34.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#34 is:

(1) “selecting from the plurality of node servers one or more candidate node servers.”

Claim 41 (“**Function of FP#34.2**”); and

(2) “selecting from the plurality of node servers one or more candidate node servers that have stored thereon at least part of the requested set of content.” Claim 56 (“**Function of FP#34.2**”).

The two functions above will be referred to collectively as “**Function of FP#34**” throughout the remainder of the analysis unless expressly noted otherwise.

Control Number: 90/019,550  
Art Unit: 3992

Page 102

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#34 will have its ordinary meaning.

### **7.34.3. Prong (C)**

Based upon a review of FP#34, the Examiner finds that FP#34 does not contain sufficient structure for performing the *entire* Function of FP#34. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#34 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#34 meets Prong (C). Because FP#34 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#34 invokes § 112 ¶ 6.

### **7.34.4. Corresponding Structure for Functional Phrase #34**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#34 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#34.

The 376 Patent discloses “the core server identifies one or more node servers (‘candidate node server(s)’) from which the client can obtain some part or all of the requested content. [...] In particular [...] the core server reviews a network topology database and selects candidate node

Control Number: 90/019,550

Page 103

Art Unit: 3992

server(s) **based on** an analysis of the topological relationship between the client and node servers

[...] having some part or all of the requested content stored thereon.” 376 Patent, C5:L46–57

(emphasis added).

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner finds the above disclosure provides a clear link or association made between the Function of FP#34 and some corresponding structure (i.e., some algorithm) found in the specification. Particularly, the corresponding structure of the Function of FP#34 appears to be an algorithm comprising selecting a node server(s) as a candidate node server(s) based on an analysis of the topological relationship between the client and the node server(s).

### 7.35. Functional Phrase #35

The thirty-fifth functional phrase to be considered is the following group of functional phrases:

(1) “instructions for determining the location of the client within the network.” Claim 42 (“**Functional Phrase #35.1**” or “**FP#35.1**”); and

(2) “instructions for determining the location of the client within the network.” Claim 55 (“**Functional Phrase #35.2**” or “**FP#35.2**”).

Control Number: 90/019,550  
Art Unit: 3992

Page 104

The two functional phrases above will be referred to collectively as “**Functional Phrase #35**” or “**FP#35**” throughout the remainder of the analysis unless expressly noted otherwise.

#### **7.35.1. Prong (A)**

As an initial matter, the Examiner finds that FP#35 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#35 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#35 meets Prong (A).

#### **7.35.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#35 is:

- (1) “determining the location of the client within the network.” Claim 42 (“**Function of FP#35.1**”); and
- (2) “determining the location of the client within the network.” Claim 55 (“**Function of FP#35.2**”).

The two functions above will be referred to collectively as “**Function of FP#35**” throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#35 will have its ordinary meaning.

### **7.35.3. Prong (C)**

Based upon a review of FP#35, the Examiner finds that FP#35 does not contain sufficient structure for performing the *entire* Function of FP#35. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#35 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#35 meets Prong (C). Because FP#35 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#35 invokes § 112 ¶ 6.

### **7.35.4. Corresponding Structure for Functional Phrase #35**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#35 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#35.

The 376 Patent discloses “determining the location of the client within the network.” 376 Patent, C2:L37–38.

Control Number: 90/019,550

Page 106

Art Unit: 3992

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#35 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#35 to an algorithm, and based on the fact that claims 42 and 55 are limited to a “medium or media [encoded with one or more computer programs including instructions],” the corresponding structure of the Function of FP#35 appears to be software (e.g., “core server software”).

### **7.36. Functional Phrase #36**

The thirty-sixth functional phrase to be considered is the following group of functional phrases:

(1) “instructions for identifying the locations of the plurality of node servers that have at least part of the requested content stored thereon.” Claim 42 (“**Functional Phrase #36.1**” or “**FP#36.1**”); and

Control Number: 90/019,550  
Art Unit: 3992

Page 107

(2) “instructions for identifying the location of a plurality of node servers within the network that have at least part of the requested content stored thereon.” Claim 55 (“**Functional Phrase #36.2**” or “**FP#36.2**”).

The two functional phrases above will be referred to collectively as “**Functional Phrase #36**” or “**FP#36**” throughout the remainder of the analysis unless expressly noted otherwise.

#### **7.36.1. Prong (A)**

As an initial matter, the Examiner finds that FP#36 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#36 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#36 meets Prong (A).

#### **7.36.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#36 is:

(1) “identifying the locations of the plurality of node servers that have at least part of the requested content stored thereon.” Claim 42 (“**Function of FP#36.1**”); and

(2) “identifying the location of a plurality of node servers within the network that have at least part of the requested content stored thereon.” Claim 55 (“**Function of FP#36.2**”).

The two functions above will be referred to collectively as “**Function of FP#36**” throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#36 will have its ordinary meaning.

### **7.36.3. Prong (C)**

Based upon a review of FP#36, the Examiner finds that FP#36 does not contain sufficient structure for performing the *entire* Function of FP#36. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#36 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#36 meets Prong (C). Because FP#36 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#36 invokes § 112 ¶ 6.

### **7.36.4. Corresponding Structure for Functional Phrase #36**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#36 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#36.

Control Number: 90/019,550  
Art Unit: 3992

Page 109

The 376 Patent discloses “identifying the location of a plurality of node servers within the network that have at least part of the requested content stored thereon.” 376 Patent, C2:L38–39.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#36 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#36 to an algorithm, and based on the fact that claims 42 and 55 are limited to a “medium or media [encoded with one or more computer programs including instructions],” the corresponding structure of the Function of FP#36 appears to be software (e.g., “core server software”).

### **7.37. Functional Phrase #37**

The thirty-seventh functional phrase to be considered is the following group of functional phrases:

(1) “instructions for selecting from the plurality of node servers one or more candidate node servers that are determined to be topologically proximate to the client.” Claim 42  
(“**Functional Phrase #37.1**” or “**FP#37.1**”); and

Control Number: 90/019,550  
Art Unit: 3992

Page 110

(2) “instructions for selecting from the plurality of node servers one or more candidate node servers that are determined to be topologically proximate to the client.” Claim 55 (“**Functional Phrase #37.2**” or “**FP#37.2**”).

The two functional phrases above will be referred to collectively as “**Functional Phrase #37**” or “**FP#37**” throughout the remainder of the analysis unless expressly noted otherwise.

#### **7.37.1. Prong (A)**

As an initial matter, the Examiner finds that FP#37 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#37 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#37 meets Prong (A).

#### **7.37.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#37 is:

(1) “selecting from the plurality of node servers one or more candidate node servers that are determined to be topologically proximate to the client.” Claim 42 (“**Function of FP#37.1**”); and

Control Number: 90/019,550  
Art Unit: 3992

Page 111

(2) “selecting from the plurality of node servers one or more candidate node servers that are determined to be topologically proximate to the client.” Claim 55 (“**Function of FP#37.2**”).

The two functions above will be referred to collectively as “**Function of FP#37**” throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#37 will have its ordinary meaning.

#### **7.37.3. Prong (C)**

Based upon a review of FP#37, the Examiner finds that FP#37 does not contain sufficient structure for performing the *entire* Function of FP#37. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#37 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#37 meets Prong (C). Because FP#37 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#37 invokes § 112 ¶ 6.

#### **7.37.4. Corresponding Structure for Functional Phrase #37**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#37 is not coextensive with a general-purpose

Control Number: 90/019,550

Page 112

Art Unit: 3992

computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#37.

The 376 Patent discloses,

In particular, the invention can advantageously be implemented so that **the core server reviews a network topology database and selects candidate node server(s) based on an analysis of the topological relationship between the client and node servers** (and the core server, if the invention is so implemented) having some part or all of the requested content stored thereon. For example, as described in more detail below, **the core server can determine the topological proximity to the client of node servers** ( and, perhaps, the core server) having some part or all of the requested content stored thereon and **select as candidate node server(s) those node server(s) that are most topologically proximate to the client, as determined in accordance with a specified criterion or criteria.**

376 Patent, C5:L51–64 (emphasis added).

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner finds the above disclosure provides a clear link or association made between the Function of FP#37 and some corresponding structure (i.e., some algorithm) found in the specification. Particularly, the corresponding structure of the Function of FP#37 appears to be an algorithm comprising selecting as a candidate node server(s) the node server(s) that is *most* topologically proximate to the client, as determined in accordance with a specified criterion or criteria.

Control Number: 90/019,550  
Art Unit: 3992

Page 113

### 7.38. Functional Phrase #38

The thirty-eighth functional phrase to be considered is the following group of functional phrases:

- (1) “instructions for identifying a network site that will act as a node server for distribution of the specified content.” Claim 44 (“**Functional Phrase #38.1**” or “**FP#38.1**”); and
- (2) “instructions for identifying a network site that will act as a node server for distribution of the specified content.” Claim 50 (“**Functional Phrase #38.2**” or “**FP#38.2**”).

The two functional phrases above will be referred to collectively as “**Functional Phrase #38**” or “**FP#38**” throughout the remainder of the analysis unless expressly noted otherwise.

#### 7.38.1. Prong (A)

As an initial matter, the Examiner finds that FP#38 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#38 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#38 meets Prong (A).

Control Number: 90/019,550  
Art Unit: 3992

Page 114

### 7.38.2. Prong (B)

Based upon the claim language itself, the Examiner finds the function of FP#38 is:

- (1) “identifying a network site that will act as a node server for distribution of the specified content.” Claim 44 (“**Function of FP#38.1**”); and
- (2) “identifying a network site that will act as a node server for distribution of the specified content.” Claim 50 (“**Function of FP#38.2**”).

The two functions above will be referred to collectively as “**Function of FP#38**” throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#38 will have its ordinary meaning.

### 7.38.3. Prong (C)

Based upon a review of FP#38, the Examiner finds that FP#38 does not contain sufficient structure for performing the *entire* Function of FP#38. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#38 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#38 meets Prong (C). Because FP#38 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#38 invokes § 112 ¶ 6.

Control Number: 90/019,550  
Art Unit: 3992

Page 115

#### **7.38.4. Corresponding Structure for Functional Phrase #38**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#38 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#38.

The 376 Patent discloses “The information in the topological database can also be used by a core server in identifying candidate node servers for possible transmission of requested content to a client.” 376 Patent, C16:L58–61.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner finds the above disclosure provides a clear link or association made between the Function of FP#38 and some corresponding structure found in the specification. Particularly, the corresponding structure of the Function of FP#38 appears to be a database having a list of node servers.

#### **7.39. Functional Phrase #39**

The thirty-ninth functional phrase to be considered is the following group of functional phrases:

Control Number: 90/019,550  
Art Unit: 3992

Page 116

- (1) “instructions for providing the specified content to the node server.” Claim 44  
(“**Functional Phrase #39.1**” or “**FP#39.1**”); and
- (2) “instructions for providing the specified content to the node server” Claim 50  
(“**Functional Phrase #39.2**” or “**FP#39.2**”).

The two functional phrases above will be referred to collectively as “**Functional Phrase #39**” or “**FP#39**” throughout the remainder of the analysis unless expressly noted otherwise.

#### **7.39.1. Prong (A)**

As an initial matter, the Examiner finds that FP#39 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#39 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#39 meets Prong (A).

#### **7.39.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#39 is:

- (1) “instructions for providing the specified content to the node server.” Claim 44  
(“**Function of FP#39.1**”); and

Control Number: 90/019,550  
Art Unit: 3992

Page 117

(2) “instructions for providing the specified content to the node server” Claim 50  
(“**Function of FP#39.2**”).

The two functions above will be referred to collectively as “**Function of FP#39**” throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#39 will have its ordinary meaning.

#### **7.39.3. Prong (C)**

Based upon a review of FP#39, the Examiner finds that FP#39 does not contain sufficient structure for performing the *entire* Function of FP#39. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#39 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#39 meets Prong (C). Because FP#39 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#39 invokes § 112 ¶ 6.

#### **7.39.4. Corresponding Structure for Functional Phrase #39**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#39 is not coextensive with a general-purpose

Control Number: 90/019,550  
Art Unit: 3992

Page 118

computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#39.

The 376 Patent discloses “The core server software can enable the core server to provide content to node servers for eventual distribution to clients in accordance with the invention. (It is anticipated that it will typically be desirable to transmit the content from the core server to the node servers via the network; however, other methods can be used to distribute content from the core server to node servers, such as sending a data storage medium or media on which the content is stored through the mail.)” 376 Patent, C8:L16–24.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner finds the above disclosure provides a clear link or association made between the Function of FP#39 and some corresponding structure (i.e., some algorithm) found in the specification. Particularly, the corresponding structure of the Function of FP#39 appears to be an algorithm comprising causing delivery of the content to the node server.

Control Number: 90/019,550  
Art Unit: 3992

Page 119

#### **7.40. Functional Phrase #40**

The fortieth functional phrase to be considered is “instructions for storing data identifying available sets of content that can be obtained by a client.” Claim 47 (“**Functional Phrase #40**” or “**FP#40**”).

##### **7.40.1. Prong (A)**

As an initial matter, the Examiner finds that FP#40 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#40 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#40 meets Prong (A).

##### **7.40.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#40 is “storing data identifying available sets of content that can be obtained by a client.” Claim 47 (“**Function of FP#40**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#40 will have its ordinary meaning.

##### **7.40.3. Prong (C)**

Based upon a review of FP#40, the Examiner finds that FP#40 does not contain sufficient structure for performing the *entire* Function of FP#40. For example, the term “instructions” is

Control Number: 90/019,550

Page 120

Art Unit: 3992

not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#40 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#40 meets Prong (C). Because FP#40 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#40 invokes § 112 ¶ 6.

#### **7.40.4. Corresponding Structure for Functional Phrase #40**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#40 is coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is not required for a general-purpose computer to perform the Function of FP#40. Accordingly, the corresponding structure for the Function of FP#40 is a general-purpose computer or microprocessor.

#### **7.41. Functional Phrase #41**

The forty-first functional phrase to be considered is “instructions for providing an identification of available sets of content to the client.” Claim 47 (“**Functional Phrase #41**” or “**FP#41**”).

Control Number: 90/019,550  
Art Unit: 3992

Page 121

#### **7.41.1. Prong (A)**

As an initial matter, the Examiner finds that FP#41 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#41 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#41 meets Prong (A).

#### **7.41.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#41 is “providing an identification of available sets of content to the client.” Claim 47 (“**Function of FP#41**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#41 will have its ordinary meaning.

#### **7.41.3. Prong (C)**

Based upon a review of FP#41, the Examiner finds that FP#41 does not contain sufficient structure for performing the *entire* Function of FP#41. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Control Number: 90/019,550

Page 122

Art Unit: 3992

Because FP#41 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#41 meets Prong (C). Because FP#41 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#41 invokes § 112 ¶ 6.

#### **7.41.4. Corresponding Structure for Functional Phrase #41**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#41 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#41.

The 376 Patent discloses “core server software enables display [] of information identifying the content available for transmission to a client.” 376 Patent, C8:L33–36.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner finds the above disclosure provides a clear link or association made between the Function of FP#41 and some corresponding structure (i.e., some algorithm) found in the specification. Particularly, the corresponding structure of the Function of FP#41 appears to be an algorithm comprising enabling display of information identifying the content available for transmission to a client.

Control Number: 90/019,550  
Art Unit: 3992

Page 123

#### **7.42. Functional Phrase #42**

The forty-second functional phrase to be considered is “instructions for storing data identifying the location of the node server.” Claim 48 (“**Functional Phrase #42**” or “**FP#42**”).

##### **7.42.1. Prong (A)**

As an initial matter, the Examiner finds that FP#42 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#42 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#42 meets Prong (A).

##### **7.42.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#42 is “storing data identifying the location of the node server.” Claim 48 (“**Function of FP#42**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#42 will have its ordinary meaning.

##### **7.42.3. Prong (C)**

Based upon a review of FP#42, the Examiner finds that FP#42 does not contain sufficient structure for performing the *entire* Function of FP#42. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient

Control Number: 90/019,550

Page 124

Art Unit: 3992

structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#42 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#42 meets Prong (C). Because FP#42 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#42 invokes § 112 ¶ 6.

#### **7.42.4. Corresponding Structure for Functional Phrase #42**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#42 is coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is not required for a general-purpose computer to perform the Function of FP#42. Accordingly, the corresponding structure for the Function of FP#42 is a general-purpose computer or microprocessor.

#### **7.43. Functional Phrase #43**

The forty-third functional phrase to be considered is “instructions for storing content at a node server.” Claim 49 (“**Functional Phrase #43**” or “**FP#43**”).

##### **7.43.1. Prong (A)**

As an initial matter, the Examiner finds that FP#43 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#43 is a generic placeholder for “means.”

Control Number: 90/019,550  
Art Unit: 3992

Page 125

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#43 meets Prong (A).

#### **7.43.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#43 is “storing content at a node server.” Claim 49 (“**Function of FP#43**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#43 will have its ordinary meaning.

#### **7.43.3. Prong (C)**

Based upon a review of FP#43, the Examiner finds that FP#43 does not contain sufficient structure for performing the *entire* Function of FP#43. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#43 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#43 meets Prong (C). Because FP#43 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#43 invokes § 112 ¶ 6.

Control Number: 90/019,550  
Art Unit: 3992

Page 126

#### **7.43.4. Corresponding Structure for Functional Phrase #43**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#43 is coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is not required for a general-purpose computer to perform the Function of FP#43. Accordingly, the corresponding structure for the Function of FP#43 is a general-purpose computer or microprocessor.

#### **7.44. Functional Phrase #44**

The forty-fourth functional phrase to be considered is “instructions for receiving a request at a node server to transmit content to a client.” Claim 49 (“**Functional Phrase #44**” or “**FP#44**”).

##### **7.44.1. Prong (A)**

As an initial matter, the Examiner finds that FP#44 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#44 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#44 meets Prong (A).

Control Number: 90/019,550  
Art Unit: 3992

Page 127

#### **7.44.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#44 is “receiving a request at a node server to transmit content to a client.” Claim 49 (“**Function of FP#44**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#44 will have its ordinary meaning.

#### **7.44.3. Prong (C)**

Based upon a review of FP#44, the Examiner finds that FP#44 does not contain sufficient structure for performing the *entire* Function of FP#44. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#44 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#44 meets Prong (C). Because FP#44 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#44 invokes § 112 ¶ 6.

#### **7.44.4. Corresponding Structure for Functional Phrase #44**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#44 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#44.

Control Number: 90/019,550  
Art Unit: 3992

Page 128

The 376 Patent discloses “node server software accepts [...] requests for transmission of content.” 376 Patent, C12:L5–6.

The 376 Patent discloses “a node server of a system according to the invention can be embodied by a personal computer that operates in accordance with node server software that performs the functions of a node server.” 376 Patent, C11:L25–28.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#44 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#44 to an algorithm, and based on the fact that claim 49 is limited to a “medium or media [encoded with one or more computer programs including instructions],” the corresponding structure of FP#44 appears to be software (e.g., “node server software”).

#### **7.45. Functional Phrase #45**

The forty-fifth functional phrase to be considered is “instructions for transmitting content from a node server to a client in response to a request for that content.” Claim 49 (“**Functional Phrase #45**” or “**FP#45**”).

##### **7.45.1. Prong (A)**

As an initial matter, the Examiner finds that FP#45 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#45 is a generic placeholder for “means.”

Control Number: 90/019,550  
Art Unit: 3992

Page 129

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#45 meets Prong (A).

#### **7.45.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#45 is “transmitting content from a node server to a client in response to a request for that content.” Claim 49 (“**Function of FP#45**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#45 will have its ordinary meaning.

#### **7.45.3. Prong (C)**

Based upon a review of FP#45, the Examiner finds that FP#45 does not contain sufficient structure for performing the *entire* Function of FP#45. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#45 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#45 meets Prong (C). Because FP#45 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#45 invokes § 112 ¶ 6.

Control Number: 90/019,550  
Art Unit: 3992

Page 130

#### **7.45.4. Corresponding Structure for Functional Phrase #45**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#45 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#45.

The 376 Patent discloses “the node server(s) transmit the content (directly or indirectly) to the client.” 376 Patent, C13:L3–4.

The 376 Patent discloses “a node server of a system according to the invention can be embodied by a personal computer that operates in accordance with node server software that performs the functions of a node server.” 376 Patent, C11:L25–28.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#45 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#45 to an algorithm, and based on the fact that claim 49 is limited to a “medium or media [encoded with one or more computer programs including instructions],” the corresponding structure of FP#45 appears to be software (e.g., “node server software”).

#### **7.46. Functional Phrase #46**

The forty-sixth functional phrase to be considered is “instructions for receiving at the node server the specified content provided by the core server.” Claim 50 (“**Functional Phrase #46**” or “**FP#46**”).

Control Number: 90/019,550  
Art Unit: 3992

Page 131

#### **7.46.1. Prong (A)**

As an initial matter, the Examiner finds that FP#46 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#46 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#46 meets Prong (A).

#### **7.46.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#46 is “receiving at the node server the specified content provided by the core server.” Claim 50 (“**Function of FP#46**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#46 will have its ordinary meaning.

#### **7.46.3. Prong (C)**

Based upon a review of FP#46, the Examiner finds that FP#46 does not contain sufficient structure for performing the *entire* Function of FP#46. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Control Number: 90/019,550

Page 132

Art Unit: 3992

Because FP#46 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#46 meets Prong (C). Because FP#46 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#46 invokes § 112 ¶ 6.

#### **7.46.4. Corresponding Structure for Functional Phrase #46**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#46 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#46.

The 376 Patent discloses,

The node server software can enable a node server to acquire content from a core server. (As indicated above, it is anticipated that it will typically be desirable to transmit the content from the core server to the node servers via the network; however, other distribution methods can be used.) When the invention is implemented on the Internet, for example, this aspect of the node server software can be embodied by a conventional Web browser that enables the node server to access a Web site maintained on the core server to download content that it has been agreed that the node server will store for possible distribution to clients.

376 Patent, C11:L56–66.

Based upon a review of the 376 Patent, the Examiner finds the above disclosure provides a clear link or association made between the Function of FP#46 and some corresponding structure (i.e., some algorithm) found in the specification. Particularly, the corresponding structure of the Function of FP#46 appears to be an algorithm comprising downloading the specified content from the core server.

Control Number: 90/019,550  
Art Unit: 3992

Page 133

#### **7.47. Functional Phrase #47**

The forty-seventh functional phrase to be considered is the following group of functional phrases:

(1) “instructions for transmitting from the client a request for specified content to the core server.” Claim 51 (“**Functional Phrase #47.1**” or “**FP#47.1**”); and

(2) “instructions for transmitting from the client a request for specified content to the core server.” Claim 52 (“**Functional Phrase #47.2**” or “**FP#47.2**”).

The two functional phrases above will be referred to collectively as “**Functional Phrase #47**” or “**FP#47**” throughout the remainder of the analysis unless expressly noted otherwise.

##### **7.47.1. Prong (A)**

As an initial matter, the Examiner finds that FP#47 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#47 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#47 meets Prong (A).

##### **7.47.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#47 is:

Control Number: 90/019,550  
Art Unit: 3992

Page 134

(1) “transmitting from the client a request for specified content to the core server.” Claim 51 (“**Function of FP#47.1**”); and

(2) “transmitting from the client a request for specified content to the core server.” Claim 52 (“**Function of FP#47.2**”).

The two functions above will be referred to collectively as “**Function of FP#47**” throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#47 will have its ordinary meaning.

### **7.47.3. Prong (C)**

Based upon a review of FP#47, the Examiner finds that FP#47 does not contain sufficient structure for performing the *entire* Function of FP#47. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#47 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#47 meets Prong (C). Because FP#47 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#47 invokes § 112 ¶ 6.

Control Number: 90/019,550  
Art Unit: 3992

Page 135

#### **7.47.4. Corresponding Structure for Functional Phrase #47**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#47 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#47.

The 376 Patent discloses “In step 202, the client communicates with the core server to request transmission of particular content.” 376 Patent, C5:L38–39.

The 376 Patent discloses “The hardware used to implement a [...] client operates in accordance with software and/or firmware that produces the functionality of the [...] client. (For convenience, software and/or firmware for producing the functionality of a [...] client is sometimes referred to herein as [...] ‘client software,’ respectively.)” 376 Patent, C7:L21–28.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#47 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#47 to an algorithm, and based on the fact that claims 51 and 52 are limited to a “medium or media [encoded with one or more computer programs including instructions],” the corresponding structure of the Function of FP#47 appears to be software (e.g., “client software”).

#### **7.48. Functional Phrase #48**

The forty-eighth functional phrase to be considered is the following group of functional phrases:

Control Number: 90/019,550  
Art Unit: 3992

Page 136

(1) “instructions for receiving at the client the identity of a node server from the core server.” Claim 51 (“**Functional Phrase #48.1**” or “**FP#48.1**”); and

(2) “instructions for receiving at the client the identity of a node server from the core server.” Claim 52 (“**Functional Phrase #48.2**” or “**FP#48.2**”).

The two functional phrases above will be referred to collectively as “**Functional Phrase #48**” or “**FP#48**” throughout the remainder of the analysis unless expressly noted otherwise.

#### **7.48.1. Prong (A)**

As an initial matter, the Examiner finds that FP#48 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#48 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#48 meets Prong (A).

#### **7.48.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#48 is:

(1) “receiving at the client the identity of a node server from the core server.” Claim 51 (“**Function of FP#48.1**”); and

Control Number: 90/019,550  
Art Unit: 3992

Page 137

(2) “receiving at the client the identity of a node server from the core server.” Claim 52  
(“**Function of FP#48.2**”).

The two functions above will be referred to collectively as “**Function of FP#48**”  
throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application  
suggests otherwise, the Function of FP#48 will have its ordinary meaning.

#### **7.48.3. Prong (C)**

Based upon a review of FP#48, the Examiner finds that FP#48 does not contain sufficient  
structure for performing the *entire* Function of FP#48. For example, the term “instructions” is  
not sufficient structure for executing the claimed function, nor is it modified by sufficient  
structure for executing the function. Instead, “instructions” is a generic term that does not  
implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in  
the claim.

Because FP#48 does not contain sufficient structure for performing the entire claimed  
function, the Examiner concludes that FP#48 meets Prong (C). Because FP#48 meets the 3 Prong  
Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#48 invokes § 112 ¶ 6.

#### **7.48.4. Corresponding Structure for Functional Phrase #48**

Based upon consultation of dictionaries, a review of the record, and a review of the prior  
art, the Examiner concludes that the Function of FP#48 is not coextensive with a general-purpose

Control Number: 90/019,550  
Art Unit: 3992

Page 138

computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#48.

The 376 Patent discloses “In step 204, the core server communicates the identity of the candidate node server(s) to the client.” 376 Patent, C6:L15–16.

The 376 Patent discloses “The hardware used to implement a [...] client operates in accordance with software and/or firmware that produces the functionality of the [...] client. (For convenience, software and/or firmware for producing the functionality of a [...] client is sometimes referred to herein as [...] ‘client software,’ respectively.)” 376 Patent, C7:L22–28.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#48 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#48 to an algorithm, and based on the fact that claims 51 and 52 are limited to a “medium or media [encoded with one or more computer programs including instructions],” the corresponding structure of the Function of FP#48 appears to be software (e.g., “client software”).

#### **7.49. Functional Phrase #49**

The forty-ninth functional phrase to be considered is the following group of functional phrases:

(1) “instructions for receiving at the client the specified content from a node server.”

Claim 51 (“**Functional Phrase #49.1**” or “**FP#49.1**”); and

(2) “instructions for receiving at the client the specified content from a node server.”

Claim 52 (“**Functional Phrase #49.2**” or “**FP#49.2**”).

Control Number: 90/019,550  
Art Unit: 3992

Page 139

The two functional phrases above will be referred to collectively as “**Functional Phrase #49**” or “**FP#49**” throughout the remainder of the analysis unless expressly noted otherwise.

#### **7.49.1. Prong (A)**

As an initial matter, the Examiner finds that FP#49 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#49 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#49 meets Prong (A).

#### **7.49.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#49 is:

- (1) “receiving at the client the specified content from a node server.” Claim 51 (“**Function of FP#49.1**”); and
- (2) “receiving at the client the specified content from a node server.” Claim 52 (“**Function of FP#49.2**”).

The two functions above will be referred to collectively as “**Function of FP#49**” throughout the remainder of the analysis unless expressly noted otherwise.

Control Number: 90/019,550  
Art Unit: 3992

Page 140

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#49 will have its ordinary meaning.

#### **7.49.3. Prong (C)**

Based upon a review of FP#49, the Examiner finds that FP#49 does not contain sufficient structure for performing the *entire* Function of FP#49. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#49 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#49 meets Prong (C). Because FP#49 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#49 invokes § 112 ¶ 6.

#### **7.49.4. Corresponding Structure for Functional Phrase #49**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#49 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#49.

The 376 Patent discloses “Once the client software has selected node server(s) for delivery of the requested content, the client communicates with the selected node server(s) to schedule and download the content.” 376 Patent, C14:L61–64.

Control Number: 90/019,550  
Art Unit: 3992

Page 141

The 376 Patent discloses “The hardware used to implement a [...] client operates in accordance with software and/or firmware that produces the functionality of the [...] client. (For convenience, software and/or firmware for producing the functionality of a [...] client is sometimes referred to herein as [...] ‘client software,’ respectively.)” 376 Patent, C7:L23–28.

Based upon a review of the 376 Patent, the Examiner finds the above disclosure provides a clear link or association made between the Function of FP#49 and some corresponding structure (i.e., some algorithm) found in the specification. Particularly, the corresponding structure of the Function of FP#49 appears to be an algorithm comprising downloading the specified content from the node server.

#### **7.50. Functional Phrase #50**

The fiftieth functional phrase to be considered is “instructions for transmitting a request from the client to the node server to transmit specified content to the client.” Claim 53 (“**Functional Phrase #50**” or “**FP#50**”).

##### **7.50.1. Prong (A)**

As an initial matter, the Examiner finds that FP#50 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#50 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#50 meets Prong (A).

**7.50.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#50 is “transmitting a request from the client to the node server to transmit specified content to the client.” Claim 53 (“**Function of FP#50**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#50 will have its ordinary meaning.

**7.50.3. Prong (C)**

Based upon a review of FP#50, the Examiner finds that FP#50 does not contain sufficient structure for performing the *entire* Function of FP#50. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#50 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#50 meets Prong (C). Because FP#50 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#50 invokes § 112 ¶ 6.

**7.50.4. Corresponding Structure for Functional Phrase #50**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#50 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#50.

The 376 Patent discloses “In step 206, the client contacts the selected node server(s) to request transmission of the content.” 376 Patent, C6:L30–31.

The 376 Patent discloses “The hardware used to implement a [...] client operates in accordance with software and/or firmware that produces the functionality of the [...] client. (For convenience, software and/or firmware for producing the functionality of a [...] client is sometimes referred to herein as [...] ‘client software,’ respectively.)” 376 Patent, C7:L23–28.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#50 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#50 to an algorithm, and based on the fact that claim 53 is limited to a “medium or media [encoded with one or more computer programs including instructions],” the corresponding structure of the Function of FP#50 appears to be software (e.g., “client software”).

#### **7.51. Functional Phrase #51**

The fifty-first functional phrase to be considered is “instructions for monitoring the characteristics of the transmission of the specified content from the node server to obtain auditing information regarding the transmission of the specified content from the node server to the client.” Claim 54 (“**Functional Phrase #51**” or “**FP#51**”).

Control Number: 90/019,550  
Art Unit: 3992

Page 144

#### **7.51.1. Prong (A)**

As an initial matter, the Examiner finds that FP#51 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#51 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#51 meets Prong (A).

#### **7.51.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#51 is “monitoring the characteristics of the transmission of the specified content from the node server to obtain auditing information regarding the transmission of the specified content from the node server to the client.” Claim 54 (“**Function of FP#51**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#51 will have its ordinary meaning.

#### **7.51.3. Prong (C)**

Based upon a review of FP#51, the Examiner finds that FP#51 does not contain sufficient structure for performing the *entire* Function of FP#51. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not

Control Number: 90/019,550

Page 145

Art Unit: 3992

implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#51 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#51 meets Prong (C). Because FP#51 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#51 invokes § 112 ¶ 6.

#### **7.51.4. Corresponding Structure for Functional Phrase #51**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#51 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#51.

The 376 Patent discloses “the client can communicate information to the core server regarding the characteristics of the content delivery, such as the bandwidth and/or latency performance associated with the content delivery.” 376 Patent, C6:L59–62.

The 376 Patent discloses,

The invention can be implemented to enable a client and/or a node server to communicate auditing data to the core server regarding delivery of particular content. The auditing data can include identification of the content delivered, the node server(s) from which content was delivered, and the client to which the content was delivered. The auditing data can also include information regarding the characteristics of the content delivery, such as when the content was delivered, the bandwidth and/ or latency performance associated with the content delivery, and identification of any transmission problems during the content delivery.

376 Patent, C21:L64–C22:L7.

The 376 Patent discloses “The hardware used to implement a [...] client operates in accordance with software and/or firmware that produces the functionality of the [...] client. (For

Control Number: 90/019,550  
Art Unit: 3992

Page 146

convenience, software and/or firmware for producing the functionality of a [...] client is sometimes referred to herein as [...] ‘client software,’ respectively.)” 376 Patent, C7:L23–28.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#51 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#51 to an algorithm, and based on the fact that claim 54 is limited to a “medium or media [encoded with one or more computer programs including instructions],” the corresponding structure of the Function of FP#51 appears to be software (e.g., “client software”).

## **7.52. Functional Phrase #52**

The fifty-second functional phrase to be considered is “instructions for transmitting the auditing information to the core server.” Claim 54 (“**Functional Phrase #52**” or “**FP#52**”).

### **7.52.1. Prong (A)**

As an initial matter, the Examiner finds that FP#52 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#52 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#52 meets Prong (A).

**7.52.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#52 is “transmitting the auditing information to the core server.” Claim 54 (“**Function of FP#52**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#52 will have its ordinary meaning.

**7.52.3. Prong (C)**

Based upon a review of FP#52, the Examiner finds that FP#52 does not contain sufficient structure for performing the *entire* Function of FP#52. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#52 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#52 meets Prong (C). Because FP#52 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#52 invokes § 112 ¶ 6.

**7.52.4. Corresponding Structure for Functional Phrase #52**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#52 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#52.

Control Number: 90/019,550  
Art Unit: 3992

Page 148

The 376 Patent discloses “the client can communicate information to the core server regarding the characteristics of the content delivery, such as the bandwidth and/or latency performance associated with the content delivery.” 376 Patent, C6:L59–62.

The 376 Patent discloses,

The invention can be implemented to enable a client and/or a node server to communicate auditing data to the core server regarding delivery of particular content. The auditing data can include identification of the content delivered, the node server(s) from which content was delivered, and the client to which the content was delivered. The auditing data can also include information regarding the characteristics of the content delivery, such as when the content was delivered, the bandwidth and/ or latency performance associated with the content delivery, and identification of any transmission problems during the content delivery.

376 Patent, C21:L64–C22:L7.

The 376 Patent discloses “The hardware used to implement a [...] client operates in accordance with software and/or firmware that produces the functionality of the [...] client. (For convenience, software and/or firmware for producing the functionality of a [...] client is sometimes referred to herein as [...] ‘client software,’ respectively.)” 376 Patent, C7:L23–28.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#52 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#52 to an algorithm, and based on the fact that claim 54 is limited to a “medium or media [encoded with one or more computer programs including instructions],” the corresponding structure of the Function of FP#52 appears to be software (e.g., “client software”).

Control Number: 90/019,550  
Art Unit: 3992

Page 149

### 7.53. Functional Phrase #53

The fifty-third functional phrase to be considered is “instructions for identifying the locations of the plurality of node servers that can act as a node server for distribution of the specified content.” Claim 42 (“**Functional Phrase #53**” or “**FP#53**”).

#### 7.53.1. Prong (A)

As an initial matter, the Examiner finds that FP#53 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#53 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#53 meets Prong (A).

#### 7.53.2. Prong (B)

Based upon the claim language itself, the Examiner finds the function of FP#53 is “identifying the locations of the plurality of node servers that can act as a node server for distribution of the specified content.” Claim 42 (“**Function of FP#53**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#53 will have its ordinary meaning.

#### 7.53.3. Prong (C)

Based upon a review of FP#53, the Examiner finds that FP#53 does not contain sufficient structure for performing the *entire* Function of FP#53. For example, the term “instructions” is

Control Number: 90/019,550

Page 150

Art Unit: 3992

not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#53 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#53 meets Prong (C). Because FP#53 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#53 invokes § 112 ¶ 6.

#### **7.53.4. Corresponding Structure for Functional Phrase #53**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#53 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#53.

The 376 Patent discloses “identifying the location of a plurality of node servers within the network that have at least part of the requested content stored thereon.” 376 Patent, C2:L38–39.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Control Number: 90/019,550  
Art Unit: 3992

Page 151

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#53 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#53 to an algorithm, and based on the fact that claim 42 is limited to a “medium or media [encoded with one or more computer programs including instructions],” the corresponding structure of the Function of FP#53 appears to be software (e.g., “core server software”).

#### **7.54. Functional Phrase #54**

The fifty-fourth functional phrase to be considered is “instructions for identifying the location of a prospective node server that desires to act as a node server for distribution of the specified content.” Claim 45 (“**Functional Phrase #54**” or “**FP#54**”).

##### **7.54.1. Prong (A)**

As an initial matter, the Examiner finds that FP#54 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#54 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#54 meets Prong (A).

Control Number: 90/019,550  
Art Unit: 3992

Page 152

#### **7.54.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#54 is “identifying the location of a prospective node server that desires to act as a node server for distribution of the specified content.” Claim 45 (“**Function of FP#54**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#54 will have its ordinary meaning.

#### **7.54.3. Prong (C)**

Based upon a review of FP#54, the Examiner finds that FP#54 does not contain sufficient structure for performing the *entire* Function of FP#54. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#54 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#54 meets Prong (C). Because FP#54 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#54 invokes § 112 ¶ 6.

#### **7.54.4. Corresponding Structure for Functional Phrase #54**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#54 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#54.

Control Number: 90/019,550  
Art Unit: 3992

Page 153

The 376 Patent discloses “identifying the location of a plurality of node servers within the network that have at least part of the requested content stored thereon.” 376 Patent, C2:L38–39.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#54 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#54 to an algorithm, and based on the fact that claim 45 is limited to a “medium or media [encoded with one or more computer programs including instructions],” the corresponding structure of the Function of FP#54 appears to be software (e.g., “core server software”).

#### **7.55. Functional Phrase #55**

The fifty-fifth functional phrase to be considered is “instructions for identifying the location of one or more other existing node servers that can act as a node server for distribution of the specified content.” Claim 45 (“**Functional Phrase #55**” or “**FP#55**”).

Control Number: 90/019,550  
Art Unit: 3992

Page 154

#### **7.55.1. Prong (A)**

As an initial matter, the Examiner finds that FP#55 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#55 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#55 meets Prong (A).

#### **7.55.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#55 is “identifying the location of one or more other existing node servers that can act as a node server for distribution of the specified content.” Claim 45 (“**Function of FP#55**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#55 will have its ordinary meaning.

#### **7.55.3. Prong (C)**

Based upon a review of FP#55, the Examiner finds that FP#55 does not contain sufficient structure for performing the *entire* Function of FP#55. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Control Number: 90/019,550

Page 155

Art Unit: 3992

Because FP#55 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#55 meets Prong (C). Because FP#55 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#55 invokes § 112 ¶ 6.

#### **7.55.4. Corresponding Structure for Functional Phrase #55**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#55 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#55.

The 376 Patent discloses “identifying the location of a plurality of node servers within the network that have at least part of the requested content stored thereon.” 376 Patent, C2:L38–39.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#55 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#55 to an algorithm, and

Control Number: 90/019,550

Page 156

Art Unit: 3992

based on the fact that claim 45 is limited to a “medium or media [encoded with one or more computer programs including instructions],” the corresponding structure of the Function of FP#55 appears to be software (e.g., “core server software”).

### **7.56. Functional Phrase #56**

The fifty-sixth functional phrase to be considered is “instructions for determining the topological proximity of the prospective node server to the existing node servers.” Claim 45 (“**Functional Phrase #56**” or “**FP#56**”).

#### **7.56.1. Prong (A)**

As an initial matter, the Examiner finds that FP#56 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#56 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#56 meets Prong (A).

#### **7.56.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#56 is “determining the topological proximity of the prospective node server to the existing node servers.” Claim 45 (“**Function of FP#56**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#56 will have its ordinary meaning.

Control Number: 90/019,550  
Art Unit: 3992

Page 157

### **7.56.3. Prong (C)**

Based upon a review of FP#56, the Examiner finds that FP#56 does not contain sufficient structure for performing the *entire* Function of FP#56. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#56 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#56 meets Prong (C). Because FP#56 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#56 invokes § 112 ¶ 6.

### **7.56.4. Corresponding Structure for Functional Phrase #56**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#56 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#56.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

Control Number: 90/019,550

Page 158

Art Unit: 3992

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

The 376 Patent discloses “For example, software for determining which content each node server stores can be implemented to seek to ensure that duplicate copies of particular content are stored on node servers that are topologically dispersed throughout the network.” 376 Patent, C15:L44–48 (emphasis added).

The 376 Patent discloses “then a decision can be made to store additional copies of that content at one or more node servers that are topologically proximate to that particular node server.” 376 Patent, C16:L1–3 (emphasis added).

The 376 Patent discloses “[...], since there is likely to be a large number of relatively topologically proximate node servers that can effectively distribute the content to a particular content delivery destination.” 376 Patent, C20:L41–46 (emphasis added).

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#56 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#56 to an algorithm, and based on the fact that claim 45 is limited to a “medium or media [encoded with one or more computer programs including instructions],” the corresponding structure of the Function of FP#56 appears to be software (e.g., “core server software”).

Control Number: 90/019,550  
Art Unit: 3992

Page 159

### **7.57. Functional Phrase #57**

The fifty-seventh functional phrase to be considered is “instructions for performing an annealing method.” Claim 46 (“**Functional Phrase #57**” or “**FP#57**”).

#### **7.57.1. Prong (A)**

As an initial matter, the Examiner finds that FP#57 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#57 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “instructions” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#57 meets Prong (A).

#### **7.57.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#57 is “performing an annealing method.” Claim 46 (“**Function of FP#57**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#57 will have its ordinary meaning.

#### **7.57.3. Prong (C)**

Based upon a review of FP#57, the Examiner finds that FP#57 does not contain sufficient structure for performing the *entire* Function of FP#57. For example, the term “instructions” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “instructions” is a generic term that does not

Control Number: 90/019,550  
Art Unit: 3992

Page 160

implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#57 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#57 meets Prong (C). Because FP#57 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#57 invokes § 112 ¶ 6.

#### **7.57.4. Corresponding Structure for Functional Phrase #57**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#57 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#57.

The 376 Patent discloses “[...] using an annealing method, as understood by those skilled in the art.” 376 Patent, C15:L44–49 (emphasis added).

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#57 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#57 to an algorithm, and based on the fact that claim 46 is limited to a “medium or media [encoded with one or more computer programs including instructions],” the corresponding structure of the Function of FP#57 appears to be an algorithm understood by those skilled in this art.

Control Number: 90/019,550  
Art Unit: 3992

Page 161

### **7.58. Functional Phrase #58**

The fifty-eighth functional phrase to be considered is “means for identifying the location of a prospective node server that desires to act as a node server for distribution of the specified content.” Claim 13 (“**Functional Phrase #58**” or “**FP#58**”).

#### **7.58.1. Prong (A)**

As an initial matter, the Examiner finds that FP#58 uses the term “means.” Therefore, FP#58 meets Prong (A).

#### **7.58.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#58 is “identifying the location of a prospective node server that desires to act as a node server for distribution of the specified content.” Claim 13 (“**Function of FP#58**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#58 will have its ordinary meaning.

#### **7.58.3. Prong (C)**

Based upon a review of FP#58, the Examiner finds that FP#58 does not contain sufficient structure for performing the *entire* Function of FP#58.

Because FP#58 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#58 meets Prong (C). Because FP#58 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#58 invokes § 112 ¶ 6.

Control Number: 90/019,550  
Art Unit: 3992

Page 162

#### **7.58.4. Corresponding Structure for Functional Phrase #58**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#58 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#58.

The 376 Patent discloses “identifying the location of a plurality of node servers within the network that have at least part of the requested content stored thereon.” 376 Patent, C2:L38–39.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#58 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#58 to an algorithm, and based on the fact that claim 13 already recites the core server, the corresponding structure of the Function of FP#58 appears to be software (e.g., “core server software”).

Control Number: 90/019,550  
Art Unit: 3992

Page 163

### **7.59. Functional Phrase #59**

The fifty-ninth functional phrase to be considered is “means for identifying the location of one or more other existing node servers that can act as a node server for distribution of the specified content.” Claim 13 (“**Functional Phrase #59**” or “**FP#59**”).

#### **7.59.1. Prong (A)**

As an initial matter, the Examiner finds that FP#59 uses the term “means.” Therefore, FP#59 meets Prong (A).

#### **7.59.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#59 is “identifying the location of one or more other existing node servers that can act as a node server for distribution of the specified content.” Claim 13 (“**Function of FP#59**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#59 will have its ordinary meaning.

#### **7.59.3. Prong (C)**

Based upon a review of FP#59, the Examiner finds that FP#59 does not contain sufficient structure for performing the *entire* Function of FP#59.

Because FP#59 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#59 meets Prong (C). Because FP#59 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#59 invokes § 112 ¶ 6.

**7.59.4. Corresponding Structure for Functional Phrase #59**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#59 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#59.

The 376 Patent discloses “identifying the location of a plurality of node servers within the network that have at least part of the requested content stored thereon.” 376 Patent, C2:L38–39.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#59 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#59 to an algorithm, and based on the fact that claim 13 already recites the core server, the corresponding structure of the Function of FP#59 appears to be software (e.g., “core server software”).

Control Number: 90/019,550  
Art Unit: 3992

Page 165

### **7.60. Functional Phrase #60**

The sixtieth functional phrase to be considered is “means for determining the topological proximity of the prospective node server to the existing node servers.” Claim 13 (“**Functional Phrase #60**” or “**FP#60**”).

#### **7.60.1. Prong (A)**

As an initial matter, the Examiner finds that FP#60 uses the term “means.” Therefore, FP#60 meets Prong (A).

#### **7.60.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#60 is “determining the topological proximity of the prospective node server to the existing node servers.” Claim 13 (“**Function of FP#60**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#60 will have its ordinary meaning.

#### **7.60.3. Prong (C)**

Based upon a review of FP#60, the Examiner finds that FP#60 does not contain sufficient structure for performing the *entire* Function of FP#60.

Because FP#60 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#60 meets Prong (C). Because FP#60 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#60 invokes § 112 ¶ 6.

Control Number: 90/019,550  
Art Unit: 3992

Page 166

#### **7.60.4. Corresponding Structure for Functional Phrase #60**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#60 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#60.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

The 376 Patent discloses “For example, software for determining which content each node server stores can be implemented to seek to ensure that duplicate copies of particular content are stored on node servers that are topologically dispersed throughout the network.” 376 Patent, C15:L44–48 (emphasis added).

The 376 Patent discloses “then a decision can be made to store additional copies of that content at one or more node servers that are topologically proximate to that particular node server.” 376 Patent, C16:L1–3 (emphasis added).

The 376 Patent discloses “[...], since there is likely to be a large number of relatively topologically proximate node servers that can effectively distribute the content to a particular content delivery destination.” 376 Patent, C20:L41–46 (emphasis added).

Control Number: 90/019,550  
Art Unit: 3992

Page 167

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#60 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#60 to an algorithm, and based on the fact that claim 45 is limited to a “medium or media [encoded with one or more computer programs including instructions],” the corresponding structure of the Function of FP#60 appears to be software (e.g., “core server software”).

#### **7.61. Functional Phrase #61**

The sixty-first functional phrase to be considered is “computational apparatus adapted to select from the plurality of node servers one or more candidate node servers.” Claim 98 (“**Functional Phrase #61**” or “**FP#61**”).

##### **7.61.1. Prong (A)**

As an initial matter, the Examiner finds that FP#61 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#61 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “computational apparatus” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#61 meets Prong (A).

Control Number: 90/019,550  
Art Unit: 3992

Page 168

#### **7.61.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#61 is “select from the plurality of node servers one or more candidate node servers.” Claim 98 (“**Function of FP#61**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#61 will have its ordinary meaning.

#### **7.61.3. Prong (C)**

Based upon a review of FP#61, the Examiner finds that FP#61 does not contain sufficient structure for performing the *entire* Function of FP#61. For example, the term “computational apparatus” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “computational apparatus” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#61 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#61 meets Prong (C). Because FP#61 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#61 invokes § 112 ¶ 6.

#### **7.61.4. Corresponding Structure for Functional Phrase #61**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#61 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#61.

Control Number: 90/019,550  
Art Unit: 3992

Page 169

The 376 Patent discloses “the core server identifies one or more node servers (‘candidate node server(s)’) from which the client can obtain some part or all of the requested content. [...]. In particular [...] the core server reviews a network topology database and selects candidate node server(s) **based on** an analysis of the topological relationship between the client and node servers [...] having some part or all of the requested content stored thereon.” 376 Patent, C5:L46–57 (emphasis added).

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...].” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner finds the above disclosure provides a clear link or association made between the Function of FP#61 and some corresponding structure (i.e., some algorithm) found in the specification. Particularly, the corresponding structure of the Function of FP#61 appears to be an algorithm comprising selecting a node server(s) as a candidate node server(s) based on an analysis of the topological relationship between the client and the node server(s).

Control Number: 90/019,550  
Art Unit: 3992

Page 170

### **7.62. Functional Phrase #62**

The sixty-second functional phrase to be considered is “computational apparatus [is] further adapted to determine the location of the client within the network.” Claim 99 (“**Functional Phrase #62**” or “**FP#62**”).

#### **7.62.1. Prong (A)**

As an initial matter, the Examiner finds that FP#62 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#62 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “computational apparatus” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#62 meets Prong (A).

#### **7.62.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#62 is “determine the location of the client within the network.” Claim 99 (“**Function of FP#62**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#62 will have its ordinary meaning.

#### **7.62.3. Prong (C)**

Based upon a review of FP#62, the Examiner finds that FP#62 does not contain sufficient structure for performing the *entire* Function of FP#62. For example, the term “computational apparatus” is not sufficient structure for executing the claimed function, nor is it modified by

Control Number: 90/019,550

Page 171

Art Unit: 3992

sufficient structure for executing the function. Instead, “computational apparatus” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#62 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#62 meets Prong (C). Because FP#62 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#62 invokes § 112 ¶ 6.

#### **7.62.4. Corresponding Structure for Functional Phrase #62**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#62 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#62.

The 376 Patent discloses “determining the location of the client within the network.” 376 Patent, C2:L37–38.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...].” 376 Patent, C7:L21–24.

Control Number: 90/019,550  
Art Unit: 3992

Page 172

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#9 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#62 to an algorithm, and based on the fact that claim 98 already implicitly recites the disclosed “core server,” the corresponding structure of the Function of FP#62 appears to be software (e.g., “core server software”).

### **7.63. Functional Phrase #63**

The sixty-third functional phrase to be considered is “computational apparatus is further adapted to select from the plurality of node servers one or more candidate node servers that are determined to be topologically proximate to the client.” Claim 99 (“**Functional Phrase #63**” or “**FP#63**”).

#### **7.63.1. Prong (A)**

As an initial matter, the Examiner finds that FP#63 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#63 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “computational apparatus” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#63 meets Prong (A).

Control Number: 90/019,550  
Art Unit: 3992

Page 173

#### **7.63.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#63 is “select from the plurality of node servers one or more candidate node servers that are determined to be topologically proximate to the client.” Claim 99 (“**Function of FP#63**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#63 will have its ordinary meaning.

#### **7.63.3. Prong (C)**

Based upon a review of FP#63, the Examiner finds that FP#63 does not contain sufficient structure for performing the *entire* Function of FP#63. For example, the term “computational apparatus” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “computational apparatus” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#63 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#63 meets Prong (C). Because FP#63 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#63 invokes § 112 ¶ 6.

#### **7.63.4. Corresponding Structure for Functional Phrase #63**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#63 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#63.

Control Number: 90/019,550

Page 174

Art Unit: 3992

The 376 Patent discloses,

In particular, the invention can advantageously be implemented so that **the core server reviews a network topology database and selects candidate node server(s) based on an analysis of the topological relationship between the client and node servers** (and the core server, if the invention is so implemented) having some part or all of the requested content stored thereon. For example, as described in more detail below, **the core server can determine the topological proximity to the client of node servers** ( and, perhaps, the core server) having some part or all of the requested content stored thereon and **select as candidate node server(s) those node server(s) that are most topologically proximate to the client, as determined in accordance with a specified criterion or criteria.**

376 Patent, C5:L51–64 (emphasis added).

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner finds the above disclosure provides a clear link or association made between the Function of FP#63 and some corresponding structure (i.e., some algorithm) found in the specification. Particularly, the corresponding structure of the Function of FP#63 appears to be an algorithm comprising selecting as a candidate node server(s) the node server(s) that is *most* topologically proximate to the client, as determined in accordance with a specified criterion or criteria.

Control Number: 90/019,550  
Art Unit: 3992

Page 175

#### **7.64. Functional Phrase #64**

The sixty-fourth functional phrase to be considered is the following group of functional phrases:

(1) “computational apparatus are adapted to identify a network site that will act as a node server for distribution of the specified content.” Claim 101 (“**Functional Phrase #64.1**” or “**FP#64.1**”); and

(2) “computational apparatus adapted to identify a network site that will act as a node server for distribution of the specified content.” Claim 112 (“**Functional Phrase #64.2**” or “**FP#64.2**”).

The two functional phrases above will be referred to collectively as “**Functional Phrase #64**” or “**FP#64**” throughout the remainder of the analysis unless expressly noted otherwise.

##### **7.64.1. Prong (A)**

As an initial matter, the Examiner finds that FP#64 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#64 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “computational apparatus” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#64 meets Prong (A).

Control Number: 90/019,550  
Art Unit: 3992

Page 176

#### **7.64.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#64 is:

- (1) “identify a network site that will act as a node server for distribution of the specified content.” Claim 101 (“**Function of FP#64.1**”); and
- (2) “identify a network site that will act as a node server for distribution of the specified content.” Claim 112 (“**Function of FP#64.2**”).

The two functions above will be referred to collectively as “**Function of FP#64**” throughout the remainder of the analysis unless expressly noted otherwise.

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#64 will have its ordinary meaning.

#### **7.64.3. Prong (C)**

Based upon a review of FP#64, the Examiner finds that FP#64 does not contain sufficient structure for performing the *entire* Function of FP#64. For example, the term “computational apparatus” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “computational apparatus” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#64 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#64 meets Prong (C). Because FP#64 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#64 invokes § 112 ¶ 6.

**7.64.4. Corresponding Structure for Functional Phrase #64**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#64 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#64.

The 376 Patent discloses “The information in the topological database can also be used by a core server in identifying candidate node servers for possible transmission of requested content to a client.” 376 Patent, C16:L58–61.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner finds the above disclosure provides a clear link or association made between the Function of FP#64 and some corresponding structure found in the specification. Particularly, the corresponding structure of the Function of FP#64 appears to be a database having a list of node servers.

Control Number: 90/019,550  
Art Unit: 3992

Page 178

### 7.65. Functional Phrase #65

The sixty-fifth functional phrase to be considered is “computational apparatus is further adapted to i) identify the location of a prospective node server that desires to act as a node server for distribution of the specified content.” Claim 102 (“**Functional Phrase #65**” or “**FP#65**”).

#### 7.65.1. Prong (A)

As an initial matter, the Examiner finds that FP#65 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#65 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “computational apparatus” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#65 meets Prong (A).

#### 7.65.2. Prong (B)

Based upon the claim language itself, the Examiner finds the function of FP#65 is “identify the location of a prospective node server that desires to act as a node server for distribution of the specified content.” Claim 102 (“**Function of FP#65**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#65 will have its ordinary meaning.

#### 7.65.3. Prong (C)

Based upon a review of FP#65, the Examiner finds that FP#65 does not contain sufficient structure for performing the *entire* Function of FP#65. For example, the term “computational

Control Number: 90/019,550

Page 179

Art Unit: 3992

apparatus” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “computational apparatus” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#65 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#65 meets Prong (C). Because FP#65 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#65 invokes § 112 ¶ 6.

#### **7.65.4. Corresponding Structure for Functional Phrase #65**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#65 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#65.

The 376 Patent discloses “identifying the location of a plurality of node servers within the network that have at least part of the requested content stored thereon.” 376 Patent, C2:L38–39.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Control Number: 90/019,550  
Art Unit: 3992

Page 180

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#54 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#65 to an algorithm, and based on the fact that claim 102 implicitly requires the core server, the corresponding structure of the Function of FP#65 appears to be software (e.g., “core server software”).

#### **7.66. Functional Phrase #66**

The sixty-sixth functional phrase to be considered is “computational apparatus is further adapted to [...] identify the location of one or more other existing node servers that can act as a node server for distribution of the specified content.” Claim 102 (“**Functional Phrase #66**” or “**FP#66**”).

##### **7.66.1. Prong (A)**

As an initial matter, the Examiner finds that FP#66 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#66 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “computational apparatus” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#66 meets Prong (A).

Control Number: 90/019,550  
Art Unit: 3992

Page 181

#### **7.66.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#66 is “identify the location of one or more other existing node servers that can act as a node server for distribution of the specified content.” Claim 102 (“**Function of FP#66**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#66 will have its ordinary meaning.

#### **7.66.3. Prong (C)**

Based upon a review of FP#66, the Examiner finds that FP#66 does not contain sufficient structure for performing the *entire* Function of FP#66. For example, the term “computational apparatus” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “computational apparatus” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#66 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#66 meets Prong (C). Because FP#66 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#66 invokes § 112 ¶ 6.

#### **7.66.4. Corresponding Structure for Functional Phrase #66**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#66 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#66.

Control Number: 90/019,550  
Art Unit: 3992

Page 182

The 376 Patent discloses “identifying the location of a plurality of node servers within the network that have at least part of the requested content stored thereon.” 376 Patent, C2:L38–39.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#55 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#66 to an algorithm, and based on the fact that claim 102 implicitly recites the core server, the corresponding structure of the Function of FP#66 appears to be software (e.g., “core server software”).

#### **7.67. Functional Phrase #67**

The sixty-seventh functional phrase to be considered is “computational apparatus is further adapted to [...] determine the topological proximity of the prospective node server to the existing node servers.” Claim 102 (“**Functional Phrase #67**” or “**FP#67**”).

Control Number: 90/019,550  
Art Unit: 3992

Page 183

#### **7.67.1. Prong (A)**

As an initial matter, the Examiner finds that FP#67 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#67 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “computational apparatus” is not an art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#67 meets Prong (A).

#### **7.67.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#67 is “determine the topological proximity of the prospective node server to the existing node servers.” Claim 102 (“**Function of FP#67**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#67 will have its ordinary meaning.

#### **7.67.3. Prong (C)**

Based upon a review of FP#67, the Examiner finds that FP#67 does not contain sufficient structure for performing the *entire* Function of FP#67. For example, the term “computational apparatus” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “computational apparatus” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Control Number: 90/019,550  
Art Unit: 3992

Page 184

Because FP#67 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#67 meets Prong (C). Because FP#67 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#67 invokes § 112 ¶ 6.

#### **7.67.4. Corresponding Structure for Functional Phrase #67**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#67 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#67.

The 376 Patent discloses “a core server of the system can be embodied by one or more server computers (i.e., any computer or computers that operate in accordance with server software, as understood by those skilled in the art) that operate in accordance with core server software.” 376 Patent, C7:L47–51.

The 376 Patent discloses “The hardware used to implement a core server [...] operates in accordance with software and/or firmware that produces the functionality of the core server [...]” 376 Patent, C7:L21–24.

The 376 Patent discloses “For example, software for determining which content each node server stores can be implemented to seek to ensure that duplicate copies of particular content are stored on node servers that are topologically dispersed throughout the network.” 376 Patent, C15:L44–48 (emphasis added).

The 376 Patent discloses “then a decision can be made to store additional copies of that content at one or more node servers that are topologically proximate to that particular node server.” 376 Patent, C16:L1–3 (emphasis added).

Control Number: 90/019,550  
Art Unit: 3992

Page 185

The 376 Patent discloses “[...], since there is likely to be a large number of relatively topologically proximate node servers that can effectively distribute the content to a particular content delivery destination.” 376 Patent, C20:L41–46 (emphasis added).

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#67 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#67 to an algorithm, and based on the fact that claim 102 implicitly requires the core server, the corresponding structure of the Function of FP#67 appears to be software (e.g., “core server software”).

#### **7.68. Functional Phrase #68**

The sixty-eighth functional phrase to be considered is “computational apparatus of the client are adapted to monitor the characteristics of the transmission of the specified content from the node server to obtain auditing information regarding the transmission of the specified content from the node server to the client.” Claim 120 (“**Functional Phrase #68**” or “**FP#68**”).

##### **7.68.1. Prong (A)**

As an initial matter, the Examiner finds that FP#68 does not use the term “means.” Therefore the issue arising under Prong (A) then becomes whether or not FP#68 is a generic placeholder for “means.”

Based upon consultation of dictionaries, a review of the record, and a review of the prior art patents of record, the Examiner concludes that the term “computational apparatus” is not an

Control Number: 90/019,550

Page 186

Art Unit: 3992

art-recognized structure to perform the claimed function, and the claims do not recite any other structure that would perform this claimed function. Therefore, FP#68 meets Prong (A).

#### **7.68.2. Prong (B)**

Based upon the claim language itself, the Examiner finds the function of FP#68 is “monitor the characteristics of the transmission of the specified content from the node server to obtain auditing information regarding the transmission of the specified content from the node server to the client.” Claim 120 (“**Function of FP#68**”).

Because nothing in the 376 Patent or the prosecution history of the 184 Application suggests otherwise, the Function of FP#68 will have its ordinary meaning.

#### **7.68.3. Prong (C)**

Based upon a review of FP#68, the Examiner finds that FP#68 does not contain sufficient structure for performing the *entire* Function of FP#68. For example, the term “computational apparatus” is not sufficient structure for executing the claimed function, nor is it modified by sufficient structure for executing the function. Instead, “computational apparatus” is a generic term that does not implicate sufficient structure, nor is sufficient structure (e.g., an algorithm) expressly recited in the claim.

Because FP#68 does not contain sufficient structure for performing the entire claimed function, the Examiner concludes that FP#68 meets Prong (C). Because FP#68 meets the 3 Prong Analysis as set forth in MPEP § 2181 I., the Examiner concludes that FP#68 invokes § 112 ¶ 6.

Control Number: 90/019,550  
Art Unit: 3992

Page 187

#### **7.68.4. Corresponding Structure for Functional Phrase #68**

Based upon consultation of dictionaries, a review of the record, and a review of the prior art, the Examiner concludes that the Function of FP#68 is not coextensive with a general-purpose computer or microprocessor. Therefore, the Examiner finds that special programming is required for a general-purpose computer to perform the Function of FP#68.

The 376 Patent discloses “the client can communicate information to the core server regarding the characteristics of the content delivery, such as the bandwidth and/or latency performance associated with the content delivery.” 376 Patent, C6:L59–62.

The 376 Patent discloses,

The invention can be implemented to enable a client and/or a node server to communicate auditing data to the core server regarding delivery of particular content. The auditing data can include identification of the content delivered, the node server(s) from which content was delivered, and the client to which the content was delivered. The auditing data can also include information regarding the characteristics of the content delivery, such as when the content was delivered, the bandwidth and/ or latency performance associated with the content delivery, and identification of any transmission problems during the content delivery.

376 Patent, C21:L64–C22:L7.

The 376 Patent discloses “The hardware used to implement a [...] client operates in accordance with software and/or firmware that produces the functionality of the [...] client. (For convenience, software and/or firmware for producing the functionality of a [...] client is sometimes referred to herein as [...] ‘client software,’ respectively.)” 376 Patent, C7:L23–28.

Based upon a review of the 376 Patent, the Examiner is unable to find where a clear link or association is made between the Function of FP#68 and some corresponding structure (i.e., some algorithm) found in the specification.

Nevertheless, in view of the 376 Patent disclosure noted above, and despite being unable to find disclosure that clearly links or associates the Function of FP#68 to an algorithm, and

Control Number: 90/019,550

Page 188

Art Unit: 3992

based on the fact that claim 120 implicitly recites the core server, the corresponding structure of the Function of FP#68 appears to be software (e.g., “client software”).

## 8. Claim Rejections – 35 USC § 103

The following is a quotation of pre-AIA 35 USC § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

### 8.1. Obvious over Little, in view of Nuttall

Claims 1–7, 15–19, 22, 24, 27, 29–32, 37–39, 47–49, 51–54, 90–96, 104–108, 111, 113, 116, and 118–121 are rejected under pre-AIA 35 USC § 103(a) as being unpatentable over Little, in view of Nuttall.

As per **claim 1**, Little discloses **Apparatus** (“VVB System,” e.g., p. 157, “VVB system architecture is designed to support many video terminals, or clients, and video-databases, or servers, interconnected via a computer network (Fig. 5)”) **for effecting the provision of content over a network** (p. 156, “a simple query interface that lets users specify their preferences to the system to retrieve the appropriate video”; p. 157, “video databases (VDBs) contain the video data (movies)”; fig. 5, “computer network”), **comprising a core server**

(p. 157, “[a] metadata server [...] called the query-database (QDB)”;

Control Number: 90/019,550  
Art Unit: 3992

Page 189

p. 158, Figure 5, shows “query data base” on a “computer network”; and

p. 158, Figure 6, shows a “Query DB Server” in conjunction with “Query Database”),  
**the core server (“QDB”) comprising:**

**means for receiving a request from a client for specified content**

(p. 149, “user queries are sent to a metadata server for processing”;

p. 158, “When the user wishes to view a video, a query is made first to the QDB for an interpretation of user browsing operations. The delivery of the video data to the user begins after the user has browsed the selections, issued a command to ‘play,’ and has been given permission to do so from the server.”;

pp. 158–159, “The query phase involves the querying of the QDB to get all information required by the client to obtain a selected movie or scene. The query mechanism is implemented using a remote procedure call<sup>[5]</sup> (RPC) between the client and the QDB (POSTGRES is the DBMS<sup>[6]</sup> used in the VVB implementation of the QDB).”; and

p. 163, Figure 9, the “postgres DBMS” is indicated as “COTS [(commercial off-the-shelf)] software”);

**means for communicating to the client the identity of a node server** (e.g., p. 157, one of “video-databases, or servers”; also “VDB” in citations below) **having the specified content stored thereon**

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<sup>5</sup> The term “remote procedure call” is understood as, “in programming, a call by one program to a second program on a remote system. The second program generally performs a task and returns the results of that task to the first program.” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 406.

<sup>6</sup> The term “DBMS” stands for “database management system,” which is understood as “A software interface between the database and the user. A database management system handles user requests for database actions and allows for control of security and data integrity requirements. *Acronym: DBMS [...]. Also called database manager. [...]*” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 129.

Control Number: 90/019,550  
 Art Unit: 3992

Page 190

(p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”;

p. 159, “The QDB has the additional functionality of guiding the client to the VDB that contains the desired information. The QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client.” and “The client requests the establishment of a connection with the VDB specified in the query process”; and

p. 160, Table 4 indicates that client makes a request to VDB using “database\_name” of VDB; because the QDB “guid[es] the client to the VDB that contains the desired information” (p. 159), and because the client uses “database\_name” in its request to the VDB (Table 4), a POSITA would understand that “the VDB specified in the query process” (p. 159) is specified by the QDB using the “database\_name,” i.e., the identity of the VDB in the form of “database\_name” is provided by the QDB to the client),

**thereby enabling the client to request transmission of the specified content from the node server**

(p. 160, Table 4, “Typical client actions during connection setup,” and row 1, which states “query\_video\_database(database\_name, video\_name),” which is described as “Query the VDB for the specified video”).

Little does not expressly disclose that the **core server** (e.g., “QDB”) also **comprises means for ascertaining that the node server transmitted the specified content to the client,**

**wherein an owner of the node server is offered an incentive as compensation for transmission of the specified content to the client.**

Nuttall is directed to a method for computer network operation providing basis for usage fees. Nuttall discloses a system for controlling the distribution and use of digital content that includes a distribution and usage reporting mechanism for accurately calculating fees associated with such distribution and use (see C1:L56–59).

In particular, Nuttall teaches a **server** (“reconciling node 118”) **comprising means for ascertaining that the node server transmitted the specified content to the client.**<sup>7</sup>

Specifically, the enumerated citations below show that Nuttall teaches a server (“reconciling node 118” shown in fig. 4) comprising an algorithm comprising after delivery of specified content from the node server to the client, auditing (“comparing” or “reconcil[ing]”) a message from the client and/or the node server indicating whether the content was delivered from the node server (“report 336,” received on line 158 of fig. 1; or “[r]eports 326 and 328,” received on line 152 of fig. 1).

(1) C4:L29–31, “a reconciliation of reports from a variety of network nodes that are reported at separate times during the data transfer process”;

(2) C4:L47–52, “By comparing reports received on lines 152, 154, 156, and possibly 158 (from content providing node 108), reconciling node 118 distinguishes valid complete data transfers from incomplete transfers and from events that could indicate intentional interference with the integrity of network 100”; and

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<sup>7</sup> As noted above, the corresponding structure for this element includes an algorithm comprising *after delivery of specified content from the node server to the client, auditing a message from the client and/or the node server indicating whether the content was delivered from the node server.*

Control Number: 90/019,550  
Art Unit: 3992

Page 192

(3) C9:L47–54, “Reports 326 and 328 respectively provide the start and summary information from content requesting node 110. Data structures 1700 and 1800 correspond to a single record of the start report and summary report respectively when instantiated in memory of reconciling node 118. Finally, report 336 describing what content files were sent and when sent may be generated by content providing node 108.”

Nuttall further teaches **wherein an owner of the node server is offered an incentive as compensation for transmission of the specified content to the client**

(note: this “wherein” clause does not describe structure of the claimed “core server;”<sup>8</sup> therefore, although citations to the prior art are provided below for compact prosecution purposes, the “wherein” clause is not given patentable weight;

C4:L25–27, “making payment for distribution services to at least the operator of content providing node 108”;

C4:L52–58, “For each valid complete transfer, reconciling node 118 allocates revenues generated from the debits of users’ accounts [and] initiates funds transfers with messages to banking node 114 on line 160 for payments of, for example, distribution fees and royalties”; and

C10:L38–40, “Allocation of earnings by process 408 follows the identification of such a reconciliation result.”).

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<sup>8</sup> See, e.g., 376 Patent at C22:L56–61, “For example, at the beginning of operation of a system according to the invention in which **a core server owner offers incentive(s)** for distribution of content on behalf of the core server owner, the **core server owner may offer** relatively generous **incentive(s)** in order to induce network site owners to agree to allow their network sites to be used as node servers.” (Emphasis added).

Control Number: 90/019,550  
Art Unit: 3992

Page 193

Little further discloses “[t]he advantage of [its] system architecture is its scalability” and “[i]t is impractical to expect a single site to store all data and provide interactive services to thousands of users.” (p. 167).

In view of the above findings from Little and Nuttall, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the system of Little to employ third party distributors (as VDBs) and to provide compensation for transmission of content to each distributor, as taught by Nuttall, in order to incentivize enough participation to achieve the “scalability” and “thousands of users” desired by Little (*id.*).

Moreover, when employing third party distributors (as VDBs), it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to include the “means for ascertaining [...],” as taught by Nuttall. One would have been motivated to do so in order “distinguish[...] valid complete data transfers from incomplete transfers” (Nuttall, *id.*) and thereby provide a mechanism to determine transfers that initiate compensation due for distribution services, as also taught by Nuttall (e.g., see C4:L52–58, “For each valid complete transfer, reconciling node 118 allocates revenues generated from the debits of users’ accounts [and] initiates funds transfers with messages to banking node 114 on line 160 for payments of, for example, distribution fees and royalties”).

Furthermore, as noted above, Little’s system (“VVB system” at p. 157) is made up of clients that request videos (“many video-terminals, or clients” at p. 157), video servers (VDBs) that provide videos (“video-databases, or servers” and “video databases (VDBs) contain the video data (movies),” at p. 157), and a central server, metadata sever (“QDB” at p. 157), that provides the clients with information about the videos (“information about the availability of videos and their locations within the VOD system” at p. 157).

Control Number: 90/019,550  
Art Unit: 3992

Page 194

Moreover, Little's QDB ("core server") is the hub of the system ("the QDB is located at a single site known to all network stations" at pp. 157–158).

Therefore, it would also have been obvious to one of ordinary skill in the art, at the time the invention was made, to locate the "means for ascertaining [...]," as taught by Nuttall, in the QDB (core server) of Little. One would have been motivated to do so because the QDB is the hub of Little's system, i.e., the single site known to all network stations, and therefore would be understood by a POSITA as a logical choice to include a "means for ascertaining [...]" that collects reports from various network stations across a network, as taught by Nuttall, and this choice produces predictable results.

As per **claim 2**, the combination of Little and Nuttall teach the **Apparatus as in claim 1**, and further meet the limitation **wherein the incentive varies in accordance with the bandwidth and/or latency performance of the node server in transmitting the specified content to the client** (as noted above, the limitation of claim 1, "wherein an owner of the node server is offered an incentive as compensation for transmission of the specified content to the client," is not given patentable weight; therefore claim 2's "wherein" clause further describing the incentive is likewise not given patentable weight).

As per **claim 3**, the combination of Little and Nuttall teach the **Apparatus as in claim 2**, and further meet the limitation **wherein the incentive varies in accordance with the bandwidth and/or latency performance of the node server relative to the bandwidth and/or latency characteristics of one or more other node servers that can provide the specified content to the client** (as noted above, the limitation of claim 1, "wherein an owner of the node

Control Number: 90/019,550

Page 195

Art Unit: 3992

server is offered an incentive as compensation for transmission of the specified content to the client,” is not given patentable weight; therefore claim 3’s “wherein” clause further describing the incentive is likewise not given patentable weight).

As per **claim 4**, the combination of Little and Nuttall teach the **Apparatus as in claim 1**, and further meet the limitation **wherein the incentive varies in accordance with the number and/or topological proximity of one or more other node servers that can provide the specified content to the client** (as noted above, the limitation of claim 1, “wherein an owner of the node server is offered an incentive as compensation for transmission of the specified content to the client,” is not given patentable weight; therefore claim 4’s “wherein” clause further describing the incentive is likewise not given patentable weight).

As per **claim 5**, the combination of Little and Nuttall teach the **Apparatus as in claim 1**, and further meet the limitation **wherein the incentive varies in accordance with the time of day at which the node server transmits the specified content to the client** (as noted above, the limitation of claim 1, “wherein an owner of the node server is offered an incentive as compensation for transmission of the specified content to the client,” is not given patentable weight; therefore claim 5’s “wherein” clause further describing the incentive is likewise not given patentable weight).

As per **claim 6**, the combination of Little and Nuttall teach the **Apparatus as in claim 1**, **wherein the means for ascertaining that the node server transmitted the specified content**

Control Number: 90/019,550  
Art Unit: 3992

Page 196

**to the client further comprises means for obtaining information regarding the characteristics of the transmission of the content**

(Nuttall, C4:L47–52, “By comparing reports received on lines 152, 154, 156, and possibly 158 (from content providing node 108), reconciling node 118 distinguishes valid complete data transfers from incomplete transfers and from events that could indicate intentional interference with the integrity of network 100”;

Nuttall, C9:L47–54, “Reports 326 and 328 respectively provide the start and summary information from content requesting node 110. Data structures 1700 and 1800 correspond to a single record of the start report and summary report respectively when instantiated in memory of reconciling node 118. Finally, report 336 describing what content files were sent and when sent may be generated by content providing node 108.”;

Nuttall, figs. 17–18).

As per **claim 7**, the combination of Little and Nuttall teach the **Apparatus as in claim 6, wherein the means for obtaining information regarding the characteristics of the transmission of the content further comprises means for obtaining information regarding when the content was delivered**

(Nuttall, C4:L47–52, “By comparing reports received on lines 152, 154, 156, and possibly 158 (from content providing node 108), reconciling node 118 distinguishes valid complete data transfers from incomplete transfers and from events that could indicate intentional interference with the integrity of network 100”;

Nuttall, C9:L47–54, “Reports 326 and 328 respectively provide the start and summary information from content requesting node 110. Data structures 1700 and 1800 correspond to a

Control Number: 90/019,550

Page 197

Art Unit: 3992

single record of the start report and summary report respectively when instantiated in memory of reconciling node 118. Finally, report 336 describing what content files were sent and when sent may be generated by content providing node 108.”;

Nuttall, figs. 17–18, e.g., “start.report.date.time”).

As per **claim 15**, the combination of Little and Nuttall teach the **Apparatus as in claim 1, the core server further comprising; means for storing data identifying available content that can be obtained by a client** (Little, fig. 5, QDB is on a computer network and is therefore a computer or general purpose computer; see also Little, p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”); **and means for providing an identification of available content to the client** (Little, p. 156, “the *virtual shelf screen* (Fig. 11) is a virtual display of the available movie cassettes and modeled on a video rental store”; Little, fig. 6, “Virtual Video Browser (VVB) Interface”; Little, fig. 11).

As per **claim 16**, the combination of Little and Nuttall teach the **Apparatus as in claim 1, the core server further comprising means for storing data identifying the location of the node server** (Little, fig. 5, QDB is on a computer network and is therefore a computer or general purpose computer; see also Little, p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”).

Control Number: 90/019,550  
Art Unit: 3992

Page 198

As per **claim 17**, the combination of Little and Nuttall teach the **Apparatus as in claim 1, wherein the content comprises visual content including moving images** (Little, p. 157, “video databases (VDBs) contain the video data (movies)”).

As per **claim 18**, the combination of Little and Nuttall teach the **Apparatus as in claim 1, wherein the network is a computer network** (Little, fig. 5, “computer network”).

As per **claim 19**, the combination of Little and Nuttall teach the **Apparatus as in claim 18, wherein the network is the Internet** (Little, p. 160, “In the VVB, the delivery of data between the client and the server is facilitated by a UDP connection. The choice of UDP was due to the need for supporting data delivery in real-time. Even though TCP is a more reliable protocol, it introduces additional delays due to retransmission which are not acceptable for real-time video communication. Furthermore, video data are tolerant to losses and we exploit this characteristic in our design. Flow control is facilitated by an out-of-band feedback circuit over a TCP connection.”; Little, p. 167, “The VVB is currently in use on a testbed of Unix workstations interconnected via Ethernet. The VVB interface has also been reimplemented to operate on the World Wide Web (WWW) using a forms-based interface.”).

As per **claim 22**, the combination of Little and Nuttall teach the **Apparatus as in claim 1, further comprising the node server, the node server comprising:**

Control Number: 90/019,550  
 Art Unit: 3992

Page 199

**means for storing the specified content** (Little, p. 157, “video databases (VDBs) contain the video data (movies)”); Little, fig. 5, video database is on a computer network, and therefore is a computer or general purpose computer);

**means for receiving a request to transmit the specified content to the client** (Little, p. 159, “During connection setup, the client checks with the VDB to see if it can support a new connection.” and “The client requests the establishment of a connection with the VDB specified in the query process. In the VVB, the delivery of video data to the client occurs over a network-connection that lasts for the lifetime of the session.”; Little, Table 4, “Query the VDB for the specified video”); **and**

**means for transmitting the specified content to the client** (Little, p. 159, “The client requests the establishment of a connection with the VDB specified in the query process. In the VVB, the delivery of video data to the client occurs over a network-connection that lasts for the lifetime of the session.”).

As per **claim 24**, the combination of Little and Nuttall teach the **Apparatus as in claim 22, wherein the core server and the node server are each implemented at least in part in a computer** (Little, p. 157, “The VVB system architecture is designed to support many video-terminals, or clients, and video-databases, or servers, interconnected via a computer network (Fig. 5). [...] A metadata server (possibly distributed) called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases. The video databases (VDBs) contain the video data (movies).”).

Control Number: 90/019,550  
Art Unit: 3992

Page 200

As per **claim 27**, the combination of Little and Nuttall teach the **Apparatus as in claim 22, the system further comprising the client** (Little, “many video-terminals, or clients” at p. 157), **the client comprising:**

**means for transmitting the request for the specified content to the core server**

(Little, p. 149, “user queries are sent to a metadata server for processing”;

Little, p. 158, “When the user wishes to view a video, a query is made first to the QDB for an interpretation of user browsing operations. The delivery of the video data to the user begins after the user has browsed the selections, issued a command to ‘play,’ and has been given permission to do so from the server.”;

Little, pp. 158–159, “The query phase involves the querying of the QDB to get all information required by the client to obtain a selected movie or scene. The query mechanism is implemented using a remote procedure call<sup>[9]</sup> (RPC) between the client and the QDB (POSTGRES is the DBMS<sup>[10]</sup> used in the VVB implementation of the QDB).”);

**means for receiving the identity of the node server from the core server**

(p. 159, “The QDB has the additional functionality of guiding the client to the VDB that contains the desired information. The QDB makes sure that the VDB being accessed has enough

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<sup>9</sup> The term “remote procedure call” is understood as, “in programming, a call by one program to a second program on a remote system. The second program generally performs a task and returns the results of that task to the first program.” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 406.

<sup>10</sup> The term “DBMS” stands for “database management system,” which is understood as “A software interface between the database and the user. A database management system handles user requests for database actions and allows for control of security and data integrity requirements. *Acronym: DBMS* [...]. *Also called* database manager. [...].” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 129.

Control Number: 90/019,550

Page 201

Art Unit: 3992

residual capacity to support the new connection before directing the client.” and “The client requests the establishment of a connection with the VDB specified in the query process”; and

p. 160, Table 4 indicates that client makes a request to VDB using “database\_name” of VDB; because the QDB “guid[es] the client to the VDB that contains the desired information” (p. 159), and because the client uses “database\_name” in its request to the VDB (Table 4), a POSITA would understand that “the VDB specified in the query process” (p. 159) is specified by the QDB using the “database\_name,” i.e., the identity of the VDB in the form of “database\_name” is received by the client from the QDB); and

**means for receiving the specified content from the node server** (Little, Figure 6, shows Playout Controller of client connected to Video DB Server; Little, p. 156, “video playout interfaces”; Little, p. 159, “The client requests the establishment of a connection with the VDB specified in the query process. In the VVB, the delivery of video data to the client occurs over a network-connection that lasts for the lifetime of the session.”; see also Little, sections 3.2.2.–3.2.3.).

As per **claim 29**, the combination of Little and Nuttall teach the **Apparatus as in claim 1, further comprising the client** (Little, “many video-terminals, or clients” at p. 157), **the client comprising:**

**means for transmitting the request for the specified content to the core server**

(Little, p. 149, “user queries are sent to a metadata server for processing”;

Little, p. 158, “When the user wishes to view a video, a query is made first to the QDB for an interpretation of user browsing operations. The delivery of the video data to the user

Control Number: 90/019,550

Page 202

Art Unit: 3992

begins after the user has browsed the selections, issued a command to ‘play,’ and has been given permission to do so from the server.”;

Little, pp. 158–159, “The query phase involves the querying of the QDB to get all information required by the client to obtain a selected movie or scene. The query mechanism is implemented using a remote procedure call<sup>[11]</sup> (RPC) between the client and the QDB (POSTGRES is the DBMS<sup>[12]</sup> used in the VVB implementation of the QDB).”);

**means for receiving the identity of the node server from the core server**

(p. 159, “The QDB has the additional functionality of guiding the client to the VDB that contains the desired information. The QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client.” and “The client requests the establishment of a connection with the VDB specified in the query process”; and

p. 160, Table 4 indicates that client makes a request to VDB using “database\_name” of VDB; because the QDB “guid[es] the client to the VDB that contains the desired information” (p. 159), and because the client uses “database\_name” in its request to the VDB (Table 4), a POSITA would understand that “the VDB specified in the query process” (p. 159) is specified by the QDB using the “database\_name,” i.e., the identity of the VDB in the form of “database\_name” is received by the client from the QDB); **and**

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<sup>11</sup> The term “remote procedure call” is understood as, “in programming, a call by one program to a second program on a remote system. The second program generally performs a task and returns the results of that task to the first program.” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 406.

<sup>12</sup> The term “DBMS” stands for “database management system,” which is understood as “A software interface between the database and the user. A database management system handles user requests for database actions and allows for control of security and data integrity requirements. *Acronym: DBMS [...]. Also called database manager. [...]*” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 129.

Control Number: 90/019,550  
Art Unit: 3992

Page 203

**means for receiving the specified content from the node server** (Little, Figure 6, shows Playout Controller of client connected to Video DB Server; Little, p. 156, “video playout interfaces”; Little, p. 159, “The client requests the establishment of a connection with the VDB specified in the query process. In the VVB, the delivery of video data to the client occurs over a network-connection that lasts for the lifetime of the session.”; Little, pp. 157–158, “The clients are provided with the necessary hardware/software to support the VVB user-interface and movie playout. [...]. The delivery of the video data to the user begins after the user has browsed the selections, issued a command to ‘play,’ and has been given permission to do so from the server.”; see also Little, sections 3.2.2.–3.2.3.).

As per **claim 30**, the combination of Little and Nuttall teach the **Apparatus as in claim 29, wherein the client further comprises means for transmitting a request to the node server to transmit the specified content to the client** (Little, p. 159, “During connection setup, the client checks with the VDB to see if it can support a new connection.” and “The client requests the establishment of a connection with the VDB specified in the query process. In the VVB, the delivery of video data to the client occurs over a network-connection that lasts for the lifetime of the session.”; Little, Table 4, “Query the VDB for the specified video”; see also Figure 6, “RPC”).

As per **claim 31**, the combination of Little and Nuttall teach the **Apparatus as in claim 29, wherein the client further comprises:**

**means for monitoring the characteristics of the transmission of the specified content from the node server to obtain auditing information regarding the transmission of the**

Control Number: 90/019,550

Page 204

Art Unit: 3992

**specified content from the node server to the client** (Nuttall, C8:L13–19, “At step 912, data from the content file header is added to the start report data structure. For data structure 1700, such data include the title, artist, copyright, duration, ID.code.type (whether ISRC, ISWC, or etc.), the ID.code.number, the content providing node address, and a file number (a serialized number assigned by encoding process 202).”); **and**

**means for transmitting the auditing information to the core server** (Nuttall, fig. 9, 916 and 918; C9:L49–51, “Data structures 1700 and 1800 correspond to a single record of the start report and summary report respectively when instantiated in memory of reconciling node 118.”).

Therefore, when employing third party distributors (as VDBs), it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the client of Little to include the “means for monitoring [...]” and the “means for transmitting [...],” as taught by Nuttall. One would have been motivated to do so in order for the client to report information that allows the QDB (as modified above in the rejection of claim 1) to “distinguish[...] valid complete data transfers from incomplete transfers” (Nuttall, *id.*) and thereby provide a client-side mechanism to report information needed by the QDB (as modified above in the rejection of claim 1) to determine transfers that initiate compensation due for distribution services, as also taught by Nuttall (e.g., see C4:L52–58, “For each valid complete transfer, reconciling node 118 allocates revenues generated from the debits of users’ accounts [and] initiates funds transfers with messages to banking node 114 on line 160 for payments of, for example, distribution fees and royalties”).

As per **claim 32**, the combination of Little and Nuttall teach the **Apparatus as in claim 29, wherein the core server and the client are each implemented at least in part in a computer** (Little, p. 157, “The VVB system architecture is designed to support many video-terminals, or clients, and video-databases, or servers, interconnected via a computer network (Fig. 5). [...] A metadata server (possibly distributed) called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases. The video databases (VDBs) contain the video data (movies).”).

As per **claim 37**, Little discloses **A computer readable storage medium or media encoded with one or more computer programs including instructions** (“VVB System,” e.g., p. 157, “VVB system architecture is designed to support many video terminals, or clients, and video-databases, or servers, interconnected via a computer network (Fig. 5)”; p. 157, “[a] metadata server [...] called the query-database (QDB)”; p. 158, Figure 5, shows “query data base” on a “computer network”; and p. 158, Figure 6, shows a “Query DB Server” in conjunction with “Query Database”) **for effecting the provision of content over a network** (p. 156, “a simple query interface that lets users specify their preferences to the system to retrieve the appropriate video”; p. 157, “video databases (VDBs) contain the video data (movies)”; fig. 5, “computer network”), **comprising:**

**instructions for receiving a request from a client for specified content**

(p. 149, “user queries are sent to a metadata server for processing”;

Control Number: 90/019,550  
Art Unit: 3992

Page 206

p. 158, “When the user wishes to view a video, a query is made first to the QDB for an interpretation of user browsing operations. The delivery of the video data to the user begins after the user has browsed the selections, issued a command to ‘play,’ and has been given permission to do so from the server.”;

pp. 158–159, “The query phase involves the querying of the QDB to get all information required by the client to obtain a selected movie or scene. The query mechanism is implemented using a remote procedure call<sup>[13]</sup> (RPC) between the client and the QDB (POSTGRES is the DBMS<sup>[14]</sup> used in the VVB implementation of the QDB).”; and

p. 163, Figure 9, the “postgres DBMS” is indicated as “COTS [(commercial off-the-shelf)] software”);

**instructions for communicating to the client the identity of a node server** (e.g., p. 157, one of “video-databases, or servers”; also “VDB” in citations below) **having the specified content stored thereon**

(p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”;

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<sup>13</sup> The term “remote procedure call” is understood as, “in programming, a call by one program to a second program on a remote system. The second program generally performs a task and returns the results of that task to the first program.” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 406.

<sup>14</sup> The term “DBMS” stands for “database management system,” which is understood as “A software interface between the database and the user. A database management system handles user requests for database actions and allows for control of security and data integrity requirements. *Acronym: DBMS [...]. Also called database manager. [...]*” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 129.

Control Number: 90/019,550  
Art Unit: 3992

Page 207

p. 159, “The QDB has the additional functionality of guiding the client to the VDB that contains the desired information. The QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client.” and “The client requests the establishment of a connection with the VDB specified in the query process”; and

p. 160, Table 4 indicates that client makes a request to VDB using “database\_name” of VDB; because the QDB “guid[es] the client to the VDB that contains the desired information” (p. 159), and because the client uses “database\_name” in its request to the VDB (Table 4), a POSITA would understand that “the VDB specified in the query process” (p. 159) is specified by the QDB using the “database\_name,” i.e., the identity of the VDB in the form of “database\_name” is provided by the QDB to the client),

**thereby enabling the client to request transmission of the specified content from the node server** (p. 160, Table 4, “Typical client actions during connection setup,” and row 1, which states “query\_video\_database(database\_name, video\_name),” which is described as “Query the VDB for the specified video”).

Little does not expressly disclose that the **medium or media** also **comprises instructions for ascertaining that the node server transmitted the specified content to the client, wherein an owner of the node server is offered an incentive as compensation for transmission of the specified content to the client.**

Nuttall is directed to a method for computer network operation providing basis for usage fees. Nuttall discloses a system for controlling the distribution and use of digital content that

Control Number: 90/019,550  
Art Unit: 3992

Page 208

includes a distribution and usage reporting mechanism for accurately calculating fees associated with such distribution and use (see C1:L56–59).

In particular, Nuttall teaches a **medium** (“reconciling node 118”) **comprising instructions for ascertaining that the node server transmitted the specified content to the client.**<sup>15</sup>

Specifically, the enumerated citations below show that Nuttall teaches a medium (“reconciling node 118” shown in fig. 4) comprising an algorithm comprising after delivery of specified content from the node server to the client, auditing (“comparing” or “reconcil[ing]”) a message from the client and/or the node server indicating whether the content was delivered from the node server (“report 336,” received on line 158 of fig. 1; or “[r]eports 326 and 328,” received on line 152 of fig. 1).

(1) C4:L29–31, “a reconciliation of reports from a variety of network nodes that are reported at separate times during the data transfer process”;

(2) C4:L47–52, “By comparing reports received on lines 152, 154, 156, and possibly 158 (from content providing node 108), reconciling node 118 distinguishes valid complete data transfers from incomplete transfers and from events that could indicate intentional interference with the integrity of network 100”; and

(3) C9:L47–54, “Reports 326 and 328 respectively provide the start and summary information from content requesting node 110. Data structures 1700 and 1800 correspond to a single record of the start report and summary report respectively when instantiated in memory of

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<sup>15</sup> As noted above, the corresponding structure for this element includes an algorithm comprising *after delivery of specified content from the node server to the client, auditing a message from the client and/or the node server indicating whether the content was delivered from the node server.*

Control Number: 90/019,550  
 Art Unit: 3992

Page 209

reconciling node 118. Finally, report 336 describing what content files were sent and when sent may be generated by content providing node 108.”

Nuttall further teaches **wherein an owner of the node server is offered an incentive as compensation for transmission of the specified content to the client**

(note: this “wherein” clause does not describe structure of the claimed “medium,”<sup>16</sup> therefore, although citations to the prior art are provided below for compact prosecution purposes, the “wherein” clause is not given patentable weight;

C4:L25–27, “making payment for distribution services to at least the operator of content providing node 108”;

C4:L52–58, “For each valid complete transfer, reconciling node 118 allocates revenues generated from the debits of users’ accounts [and] initiates funds transfers with messages to banking node 114 on line 160 for payments of, for example, distribution fees and royalties”; and

C10:L38–40, “Allocation of earnings by process 408 follows the identification of such a reconciliation result.”).

Little further discloses “[t]he advantage of [its] system architecture is its scalability” and “[i]t is impractical to expect a single site to store all data and provide interactive services to thousands of users.” (p. 167).

In view of the above findings from Little and Nuttall, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the system of Little to

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<sup>16</sup> See, e.g., 376 Patent at C22:L56–61, “For example, at the beginning of operation of a system according to the invention in which **a core server owner offers incentive(s)** for distribution of content on behalf of the core server owner, the **core server owner may offer** relatively generous **incentive(s)** in order to induce network site owners to agree to allow their network sites to be used as node servers.” (Emphasis added).

Control Number: 90/019,550

Page 210

Art Unit: 3992

employ third party distributors (as VDBs) and to provide compensation for transmission of content to each distributor, as taught by Nuttall, in order to incentivize enough participation to achieve the “scalability” and “thousands of users” desired by Little (*id.*).

Moreover, when employing third party distributors (as VDBs), it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to include the “instructions for ascertaining [...],” as taught by Nuttall. One would have been motivated to do so in order “distinguish[...] valid complete data transfers from incomplete transfers” (Nuttall, *id.*) and thereby provide a mechanism to determine transfers that initiate compensation due for distribution services, as also taught by Nuttall (e.g., see C4:L52–58, “For each valid complete transfer, reconciling node 118 allocates revenues generated from the debits of users’ accounts [and] initiates funds transfers with messages to banking node 114 on line 160 for payments of, for example, distribution fees and royalties”).

Furthermore, as noted above, Little’s system (“VVB system” at p. 157) is made up of clients that request videos (“many video-terminals, or clients” at p. 157), video servers (VDBs) that provide videos (“video-databases, or servers” and “video databases (VDBs) contain the video data (movies),” at p. 157), and a central server, metadata sever (“QDB” at p. 157), that provides the clients with information about the videos (“information about the availability of videos and their locations within the VOD system” at p. 157).

Moreover, Little’s QDB (“medium”) is the hub of the system (“the QDB is located at a single site known to all network stations” at pp. 157–158).

Therefore, it would also have been obvious to one of ordinary skill in the art, at the time the invention was made, to locate the “instructions for ascertaining [...],” as taught by Nuttall, in the QDB (medium) of Little. One would have been motivated to do so because the QDB is the

Control Number: 90/019,550

Page 211

Art Unit: 3992

hub of Little's system, i.e., the single site known to all network stations, and therefore would be understood by a POSITA as a logical choice to include a "instructions for ascertaining [...]" that collects reports from various network stations across a network, as taught by Nuttall, and this choice produces predictable results.

As per **claim 38**, the combination of Little and Nuttall teach **A computer readable storage medium or media as in claim 37, wherein the instructions for ascertaining that the node server transmitted the specified content to the client further comprise instructions for obtaining information regarding the characteristics of the transmission of the content**

(Nuttall, C4:L47–52, "By comparing reports received on lines 152, 154, 156, and possibly 158 (from content providing node 108), reconciling node 118 distinguishes valid complete data transfers from incomplete transfers and from events that could indicate intentional interference with the integrity of network 100";

Nuttall, C9:L47–54, "Reports 326 and 328 respectively provide the start and summary information from content requesting node 110. Data structures 1700 and 1800 correspond to a single record of the start report and summary report respectively when instantiated in memory of reconciling node 118. Finally, report 336 describing what content files were sent and when sent may be generated by content providing node 108.";

Nuttall, figs. 17–18).

As per **claim 39**, the combination of Little and Nuttall teach **A computer readable storage medium or media as in claim 38, wherein the instructions for obtaining information**

Control Number: 90/019,550  
Art Unit: 3992

Page 212

**regarding the characteristics of the transmission of the content further comprise instructions for obtaining information regarding when the content was delivered**

(Nuttall, C4:L47–52, “By comparing reports received on lines 152, 154, 156, and possibly 158 (from content providing node 108), reconciling node 118 distinguishes valid complete data transfers from incomplete transfers and from events that could indicate intentional interference with the integrity of network 100”;

Nuttall, C9:L47–54, “Reports 326 and 328 respectively provide the start and summary information from content requesting node 110. Data structures 1700 and 1800 correspond to a single record of the start report and summary report respectively when instantiated in memory of reconciling node 118. Finally, report 336 describing what content files were sent and when sent may be generated by content providing node 108.”;

Nuttall, figs. 17–18, e.g., “start.report.date.time”).

As per **claim 47**, the combination of Little and Nuttall teach **A computer readable storage medium or media as in claim 37, further comprising: instructions for storing data identifying available sets of content that can be obtained by a client** (Little, fig. 5, QDB is on a computer network and is therefore a computer or general purpose computer; see also Little, p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”); **and instructions for providing an identification of available sets of content to the client** (Little, p. 156, “the *virtual shelf screen* (Fig. 11) is a virtual display of the

available movie cassettes and modeled on a video rental store”; Little, fig. 6, “Virtual Video Browser (VVB) Interface”; Little, fig. 11.).

As per **claim 48**, the combination of Little and Nuttall teach **A computer readable storage medium or media as in claim 37, further comprising instructions for storing data identifying the location of the node server** (Little, fig. 5, QDB is on a computer network and is therefore a computer or general purpose computer; see also Little, p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”).

As per **claim 49**, the combination of Little and Nuttall teach **A computer readable storage medium or media as in claim 37, further comprising:**

**instructions for storing content at a node server** (Little, p. 157, “video databases (VDBs) contain the video data (movies)”; Little, fig. 5, video database is on a computer network, and therefore is a computer or general purpose computer);

**instructions for receiving a request at a node server to transmit content to a client** (Little, p. 159, “During connection setup, the client checks with the VDB to see if it can support a new connection.” and “The client requests the establishment of a connection with the VDB specified in the query process. In the VVB, the delivery of video data to the client occurs over a network-connection that lasts for the lifetime of the session.”; Little, Table 4, “Query the VDB for the specified video”); **and**

Control Number: 90/019,550  
Art Unit: 3992

Page 214

**instructions for transmitting content from a node server to a client in response to a request for that content** (Little, p. 159, “The client requests the establishment of a connection with the VDB specified in the query process. In the VVB, the delivery of video data to the client occurs over a network-connection that lasts for the lifetime of the session.”).

As per **claim 51**, the combination of Little and Nuttall teach **A computer readable storage medium or media as in claim 49, further comprising:**

**instructions for transmitting from the client a request for specified content to the core server**

(Little, p. 149, “user queries are sent to a metadata server for processing”;

Little, p. 158, “When the user wishes to view a video, a query is made first to the QDB for an interpretation of user browsing operations. The delivery of the video data to the user begins after the user has browsed the selections, issued a command to ‘play,’ and has been given permission to do so from the server.”;

Little, pp. 158–159, “The query phase involves the querying of the QDB to get all information required by the client to obtain a selected movie or scene. The query mechanism is implemented using a remote procedure call<sup>[17]</sup> (RPC) between the client and the QDB (POSTGRES is the DBMS<sup>[18]</sup> used in the VVB implementation of the QDB).”);

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<sup>17</sup> The term “remote procedure call” is understood as, “in programming, a call by one program to a second program on a remote system. The second program generally performs a task and returns the results of that task to the first program.” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 406.

<sup>18</sup> The term “DBMS” stands for “database management system,” which is understood as “A software interface between the database and the user. A database management system handles user requests for database actions and allows for control of security and data integrity requirements. *Acronym: DBMS [...]. Also called database manager. [...]*” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 129.

Control Number: 90/019,550

Page 215

Art Unit: 3992

**instructions for receiving at the client the identity of a node server from the core server**

(p. 159, “The QDB has the additional functionality of guiding the client to the VDB that contains the desired information. The QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client.” and “The client requests the establishment of a connection with the VDB specified in the query process”; and

p. 160, Table 4 indicates that client makes a request to VDB using “database\_name” of VDB; because the QDB “guid[es] the client to the VDB that contains the desired information” (p. 159), and because the client uses “database\_name” in its request to the VDB (Table 4), a POSITA would understand that “the VDB specified in the query process” (p. 159) is specified by the QDB using the “database\_name,” i.e., the identity of the VDB in the form of “database\_name” is received by the client from the QDB); **and**

**instructions for receiving at the client the specified content from a node server**  
(Little, Figure 6, shows Playout Controller of client connected to Video DB Server; Little, p. 156, “video playout interfaces”; Little, p. 159, “The client requests the establishment of a connection with the VDB specified in the query process. In the VVB, the delivery of video data to the client occurs over a network-connection that lasts for the lifetime of the session.”; see also Little, sections 3.2.2.–3.2.3.).

As per **claim 52**, the combination of Little and Nuttall teach **A computer readable storage medium or media as in claim 37, further comprising:**

**instructions for transmitting from the client a request for specified content to the core server**

Control Number: 90/019,550  
Art Unit: 3992

Page 216

(Little, p. 149, “user queries are sent to a metadata server for processing”;

Little, p. 158, “When the user wishes to view a video, a query is made first to the QDB for an interpretation of user browsing operations. The delivery of the video data to the user begins after the user has browsed the selections, issued a command to ‘play,’ and has been given permission to do so from the server.”;

Little, pp. 158–159, “The query phase involves the querying of the QDB to get all information required by the client to obtain a selected movie or scene. The query mechanism is implemented using a remote procedure call<sup>[19]</sup> (RPC) between the client and the QDB (POSTGRES is the DBMS<sup>[20]</sup> used in the VVB implementation of the QDB).”);

**instructions for receiving at the client the identity of a node server from the core server**

(p. 159, “The QDB has the additional functionality of guiding the client to the VDB that contains the desired information. The QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client.” and “The client requests the establishment of a connection with the VDB specified in the query process”; and

p. 160, Table 4 indicates that client makes a request to VDB using “database\_name” of VDB; because the QDB “guid[es] the client to the VDB that contains the desired information”

(p. 159), and because the client uses “database\_name” in its request to the VDB (Table 4), a

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<sup>19</sup> The term “remote procedure call” is understood as, “in programming, a call by one program to a second program on a remote system. The second program generally performs a task and returns the results of that task to the first program.” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 406.

<sup>20</sup> The term “DBMS” stands for “database management system,” which is understood as “A software interface between the database and the user. A database management system handles user requests for database actions and allows for control of security and data integrity requirements. *Acronym: DBMS* [...]. *Also called* database manager. [...].” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 129.

Control Number: 90/019,550

Page 217

Art Unit: 3992

POSITA would understand that “the VDB specified in the query process” (p. 159) is specified by the QDB using the “database\_name,” i.e., the identity of the VDB in the form of “database\_name” is received by the client from the QDB); and

**instructions for receiving at the client the specified content from a node server**

(Little, Figure 6, shows Playout Controller of client connected to Video DB Server; Little, p. 156, “video playout interfaces”; Little, p. 159, “The client requests the establishment of a connection with the VDB specified in the query process. In the VVB, the delivery of video data to the client occurs over a network-connection that lasts for the lifetime of the session.”; Little, pp. 157–158, “The clients are provided with the necessary hardware/software to support the VVB user-interface and movie playout. [...]. The delivery of the video data to the user begins after the user has browsed the selections, issued a command to ‘play,’ and has been given permission to do so from the server.”; see also Little, sections 3.2.2.–3.2.3.).

As per **claim 53**, the combination of Little and Nuttall teach **A computer readable storage medium or media as in claim 52, further comprising instructions for transmitting a request from the client to the node server to transmit specified content to the client** (Little, p. 159, “During connection setup, the client checks with the VDB to see if it can support a new connection.” and “The client requests the establishment of a connection with the VDB specified in the query process. In the VVB, the delivery of video data to the client occurs over a network-connection that lasts for the lifetime of the session.”; Little, Table 4, “Query the VDB for the specified video”; see also Figure 6, “RPC”).

Control Number: 90/019,550  
Art Unit: 3992

Page 218

As per **claim 54**, the combination of Little and Nuttall teach **A computer readable storage medium or media as in claim 52, further comprising:**

**instructions for monitoring the characteristics of the transmission of the specified content from the node server to obtain auditing information regarding the transmission of the specified content from the node server to the client** (Nuttall, C8:L13–19, “At step 912, data from the content file header is added to the start report data structure. For data structure 1700, such data include the title, artist, copyright, duration, ID.code.type (whether ISRC, ISWC, or etc.), the ID.code.number, the content providing node address, and a file number (a serialized number assigned by encoding process 202).”); **and**

**instructions for transmitting the auditing information to the core server**(Nuttall, fig. 9, 916 and 918; C9:L49–51, “Data structures 1700 and 1800 correspond to a single record of the start report and summary report respectively when instantiated in memory of reconciling node 118.”).

Therefore, when employing third party distributors (as VDBs), it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the medium (client) of Little to include the “instructions for monitoring [...]” and the “instructions for transmitting [...]” as taught by Nuttall. One would have been motivated to do so in order for the client to report information that allows the QDB (as modified above in the rejection of claim 1) to “distinguish[...] valid complete data transfers from incomplete transfers” (Nuttall, *id.*) and thereby provide a client-side mechanism to report information needed by the QDB (as modified above in the rejection of claim 1) to determine transfers that initiate compensation due for distribution services, as also taught by Nuttall (e.g., see C4:L52–58, “For each valid complete transfer, reconciling node 118 allocates revenues generated from the debits of users’ accounts

Control Number: 90/019,550  
Art Unit: 3992

Page 219

[and] initiates funds transfers with messages to banking node 114 on line 160 for payments of, for example, distribution fees and royalties”).

As per **claim 90**, Little discloses **Apparatus** (“VVB System,” e.g., p. 157, “VVB system architecture is designed to support many video terminals, or clients, and video-databases, or servers, interconnected via a computer network (Fig. 5)”) **for effecting the provision of content over a network** (p. 156, “a simple query interface that lets users specify their preferences to the system to retrieve the appropriate video”; p. 157, “video databases (VDBs) contain the video data (movies)”; fig. 5, “computer network”), **comprising**

**a core server**

(p. 157, “[a] metadata server [...] called the query-database (QDB)”;

p. 158, Figure 5, shows “query data base” on a “computer network”; and

p. 158, Figure 6, shows a “Query DB Server” in conjunction with “Query Database”),

**the core server (“QDB”) comprising:**

**a receiver** (fig. 5 shows QDB on a computer network; p. 149, QDB is a “server”; pp. 158–159, requests are implemented using a remote procedure call between the client and the QDB; therefore, the QDB *inherently* includes a receiver), **wherein:**

**the receiver is adapted to receive a request from a client for specified content**

(p. 149, “user queries are sent to a metadata server for processing”;

p. 158, “When the user wishes to view a video, a query is made first to the QDB for an interpretation of user browsing operations. The delivery of the video data to the user begins after the user has browsed the selections, issued a command to ‘play,’ and has been given permission to do so from the server.”;

Control Number: 90/019,550  
Art Unit: 3992

Page 220

pp. 158–159, “The query phase involves the querying of the QDB to get all information required by the client to obtain a selected movie or scene. The query mechanism is implemented using a remote procedure call<sup>[21]</sup> (RPC) between the client and the QDB (POSTGRES is the DBMS<sup>[22]</sup> used in the VVB implementation of the QDB).”; and

p. 163, Figure 9, the “postgres DBMS” is indicated as “COTS [(commercial off-the-shelf)] software”);

[...]; and

**a transmitter** (fig. 5 shows QDB on a computer network; p. 149, QDB is a “server”; pp. 158–159, requests are implemented using a remote procedure call between the client and the QDB; therefore, the QDB *inherently* includes a transmitter),

**wherein the transmitter is adapted to communicate to the client the identity of a node server** (e.g., p. 157, one of “video-databases, or servers”; also “VDB” in citations below) **having the specified content stored thereon**

(p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”;

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<sup>21</sup> The term “remote procedure call” is understood as, “in programming, a call by one program to a second program on a remote system. The second program generally performs a task and returns the results of that task to the first program.” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 406.

<sup>22</sup> The term “DBMS” stands for “database management system,” which is understood as “A software interface between the database and the user. A database management system handles user requests for database actions and allows for control of security and data integrity requirements. *Acronym: DBMS [...]. Also called database manager. [...]*” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 129.

Control Number: 90/019,550  
Art Unit: 3992

Page 221

p. 159, “The QDB has the additional functionality of guiding the client to the VDB that contains the desired information. The QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client.” and “The client requests the establishment of a connection with the VDB specified in the query process”; and

p. 160, Table 4 indicates that client makes a request to VDB using “database\_name” of VDB; because the QDB “guid[es] the client to the VDB that contains the desired information” (p. 159), and because the client uses “database\_name” in its request to the VDB (Table 4), a POSITA would understand that “the VDB specified in the query process” (p. 159) is specified by the QDB using the “database\_name,” i.e., the identity of the VDB in the form of “database\_name” is transmitted by the QDB to the client),

**thereby enabling the client to request transmission of the specified content from the node server so identified** (p. 160, Table 4, “Typical client actions during connection setup,” and row 1, which states “query\_video\_database(database\_name, video\_name),” which is described as “Query the VDB for the specified video”).

Little does not expressly disclose that **the receiver is adapted to receive an identification of a node server that transmitted the specified content to the client, wherein an owner of the node server so identified is offered an incentive as compensation for transmission of the specified content to the client.**

Control Number: 90/019,550  
Art Unit: 3992

Page 222

Nuttall is directed to a method for computer network operation providing basis for usage fees. Nuttall discloses a system for controlling the distribution and use of digital content that includes a distribution and usage reporting mechanism for accurately calculating fees associated with such distribution and use (see C1:L56–59).

In particular, Nuttall teaches a **receiver** (“reconciling node 118” shown in fig. 4) **is adapted to receive an identification of a node server that transmitted [...] specified content to [a] client** (“[r]eports 326,” received by “reconciling node 118” on line 152 of fig. 1, includes “content.CPN.node.address” of fig. 17; C9:L47–54, “Reports 326 and 328 respectively provide the start and summary information from content requesting node 110. Data structures 1700 and 1800 correspond to a single record of the start report and summary report respectively when instantiated in memory of reconciling node 118. Finally, report 336 describing what content files were sent and when sent may be generated by content providing node 108.”).

Nuttall further teaches **wherein an owner of the node server so identified is offered an incentive as compensation for transmission of the specified content to the client**

(note: this “wherein” clause does not describe structure of the claimed “core server;”<sup>23</sup> therefore, although citations to the prior art are provided below for compact prosecution purposes, the “wherein” clause is not given patentable weight;

C4:L25–27, “making payment for distribution services to at least the operator of content providing node 108”;

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<sup>23</sup> See, e.g., 376 Patent at C22:L56–61, “For example, at the beginning of operation of a system according to the invention in which **a core server owner offers incentive(s)** for distribution of content on behalf of the core server owner, the **core server owner may offer** relatively generous **incentive(s)** in order to induce network site owners to agree to allow their network sites to be used as node servers.” (Emphasis added).

Control Number: 90/019,550  
Art Unit: 3992

Page 223

C4:L52–58, “For each valid complete transfer, reconciling node 118 allocates revenues generated from the debits of users’ accounts [and] initiates funds transfers with messages to banking node 114 on line 160 for payments of, for example, distribution fees and royalties”; and

C10:L38–40, “Allocation of earnings by process 408 follows the identification of such a reconciliation result.”).

Little further discloses “[t]he advantage of [its] system architecture is its scalability” and “[i]t is impractical to expect a single site to store all data and provide interactive services to thousands of users.” (p. 167).

In view of the above findings from Little and Nuttall, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the system of Little to employ third party distributors (as VDBs) and to provide compensation for transmission of content to each distributor, as taught by Nuttall, in order to incentivize enough participation to achieve the “scalability” and “thousands of users” desired by Little (*id.*).

Moreover, when employing third party distributors (as VDBs), it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the receiver to receive an identification of a node server that transmitted the specified content to the client, as taught by Nuttall. One would have been motivated to do so in order “distinguish[...] valid complete data transfers from incomplete transfers” (Nuttall, *id.*) and thereby provide a mechanism to determine transfers that initiate compensation due for distribution services, as also taught by Nuttall (e.g., see C4:L52–58, “For each valid complete transfer, reconciling node 118 allocates revenues generated from the debits of users’ accounts [and] initiates funds transfers

Control Number: 90/019,550

Page 224

Art Unit: 3992

with messages to banking node 114 on line 160 for payments of, for example, distribution fees and royalties”).

Furthermore, Little’s system (“VVB system” at p. 157) is made up of clients that request videos (“many video-terminals, or clients” at p. 157), video servers (VDBs) that provide videos (“video-databases, or servers” and “video databases (VDBs) contain the video data (movies),” at p. 157), and a central server, metadata sever (“QDB” at p. 157), that provides the clients with information about the videos (“information about the availability of videos and their locations within the VOD system” at p. 157).

Moreover, Little’s QDB (“core server”) is the hub of the system (“the QDB is located at a single site known to all network stations” at pp. 157–158).

Therefore, it would also have been obvious to one of ordinary skill in the art, at the time the invention was made, to locate the “receive an identification of a node server that transmitted the specified content to the client,” as taught by Nuttall, in the QDB (core server) of Little. One would have been motivated to do so because the QDB is the hub of Little’s system, i.e., the single site known to all network stations, and therefore would be understood by a POSITA as a logical choice to include a “receive an identification of a node server that transmitted the specified content to the client” that collects reports from various network stations across a network, as taught by Nuttall, and this choice produces predictable results.

As per **claim 91**, the combination of Little and Nuttall teach the **Apparatus as in claim 90**, and further meet the limitation **wherein the incentive varies in accordance with the bandwidth and/or latency performance of the node server in transmitting the specified content to the client** (as noted above, the limitation of claim 90, “wherein an owner of the node

Control Number: 90/019,550

Page 225

Art Unit: 3992

server so identified is offered an incentive as compensation for transmission of the specified content to the client,” is not given patentable weight; therefore claim 91’s “wherein” clause further describing the incentive is likewise not given patentable weight).

As per **claim 92**, the combination of Little and Nuttall teach the **Apparatus as in claim 91**, and further meet the limitation **wherein the incentive varies in accordance with the bandwidth and/or latency performance of the node server relative to the bandwidth and/or latency characteristics of one or more other node servers that can provide the specified content to the client** (as noted above, the limitation of claim 90, “wherein an owner of the node server so identified is offered an incentive as compensation for transmission of the specified content to the client,” is not given patentable weight; therefore claim 92’s “wherein” clause further describing the incentive is likewise not given patentable weight).

As per **claim 93**, the combination of Little and Nuttall teach the **Apparatus as in claim 90**, and further meet the limitation **wherein the incentive varies in accordance with the number and/or topological proximity of one or more other node servers that can provide the specified content to the client** (as noted above, the limitation of claim 90, “wherein an owner of the node server so identified is offered an incentive as compensation for transmission of the specified content to the client,” is not given patentable weight; therefore claim 93’s “wherein” clause further describing the incentive is likewise not given patentable weight).

As per **claim 94**, the combination of Little and Nuttall teach the **Apparatus as in claim 90**, and further meet the limitation **wherein the incentive varies in accordance with the time of**

Control Number: 90/019,550

Page 226

Art Unit: 3992

**day at which the node server transmits the specified content to the client** (as noted above, the limitation of claim 90, “wherein an owner of the node server so identified is offered an incentive as compensation for transmission of the specified content to the client,” is not given patentable weight; therefore claim 94’s “wherein” clause further describing the incentive is likewise not given patentable weight).

As per **claim 95**, the combination of Little and Nuttall teach the **Apparatus as in claim 90, the core server further comprising computational apparatus** (QDB inherently includes a processor, since it is a server), **wherein the receiver**, transmitter and/or computational apparatus are **further adapted to obtain information regarding the characteristics of the transmission of the content**

(Nuttall, C4:L47–52, “By comparing reports received on lines 152, 154, 156, and possibly 158 (from content providing node 108), reconciling node 118 distinguishes valid complete data transfers from incomplete transfers and from events that could indicate intentional interference with the integrity of network 100”;

Nuttall, C9:L47–54, “Reports 326 and 328 respectively provide the start and summary information from content requesting node 110. Data structures 1700 and 1800 correspond to a single record of the start report and summary report respectively when instantiated in memory of reconciling node 118. Finally, report 336 describing what content files were sent and when sent may be generated by content providing node 108.”;

Nuttall, figs. 17–18).

Control Number: 90/019,550  
Art Unit: 3992

Page 227

As per **claim 96**, the combination of Little and Nuttall teach the **Apparatus as in claim 95, wherein the information regarding the characteristics of the transmission of the content comprises information regarding when the content was delivered**

(Nuttall, C4:L47–52, “By comparing reports received on lines 152, 154, 156, and possibly 158 (from content providing node 108), reconciling node 118 distinguishes valid complete data transfers from incomplete transfers and from events that could indicate intentional interference with the integrity of network 100”;

Nuttall, C9:L47–54, “Reports 326 and 328 respectively provide the start and summary information from content requesting node 110. Data structures 1700 and 1800 correspond to a single record of the start report and summary report respectively when instantiated in memory of reconciling node 118. Finally, report 336 describing what content files were sent and when sent may be generated by content providing node 108.”;

Nuttall, figs. 17–18, e.g., “start.report.date.time”).

As per **claim 104**, the combination of Little and Nuttall teach the **Apparatus as in claim 90, the core server further comprising data storage apparatus for storing data identifying available content that can be obtained by a client** (Little, fig. 5, QDB is on a computer network and is therefore a computer or general purpose computer; see also Little, p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”), **and wherein the transmitter is further adapted to provide an identification of available content to the client** (Little, p. 156, “the *virtual shelf screen* (Fig. 11) is a virtual

Control Number: 90/019,550

Page 228

Art Unit: 3992

display of the available movie cassettes and modeled on a video rental store”; Little, fig. 6, “Virtual Video Browser (VVB) Interface”; Little, fig. 11).

As per **claim 105**, the combination of Little and Nuttall teach the **Apparatus as in claim 90, the core server further comprising data storage apparatus for ^U^^ring data identifying the location of the node server** (Little, fig. 5, QDB is on a computer network and is therefore a computer or general purpose computer; see also Little, p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”; note: the term “^U^^ring” is being interpreted as “storing”).

As per **claim 106**, the combination of Little and Nuttall teach the **Apparatus as in claim 90, wherein the content comprises visual content including moving images** (Little, p. 157, “video databases (VDBs) contain the video data (movies)”).

As per **claim 107**, the combination of Little and Nuttall teach the **Apparatus as in claim 90, wherein the network is a computer network** (Little, fig. 5, “computer network”).

As per **claim 108**, the combination of Little and Nuttall teach the **Apparatus as in claim 107, wherein the network is the Internet** (Little, p. 160, “In the VVB, the delivery of data between the client and the server is facilitated by a UDP connection. The choice of UDP was due to the need for supporting data delivery in real-time. Even though TCP is a more reliable

Control Number: 90/019,550  
Art Unit: 3992

Page 229

protocol, it introduces additional delays due to retransmission which are not acceptable for real-time video communication. Furthermore, video data are tolerant to losses and we exploit this characteristic in our design. Flow control is facilitated by an out-of-band feedback circuit over a TCP connection.”; Little, p. 167, “The VVB is currently in use on a testbed of Unix workstations interconnected via Ethernet. The VVB interface has also been reimplemented to operate on the World Wide Web (WWW) using a forms-based interface.”).

As per **claim 111**, the combination of Little and Nuttall teach the **Apparatus as in claim 90, further comprising the node server, the node server comprising: data storage apparatus for storing the specified content** (Little, p. 157, “video databases (VDBs) contain the video data (movies)”); Little, fig. 5, video database is on a computer network, and therefore is a computer or general purpose computer); **a receiver adapted to receive a request to transmit the specified content to the client** (Little, p. 159, “During connection setup, the client checks with the VDB to see if it can support a new connection.” and “The client requests the establishment of a connection with the VDB specified in the query process. In the VVB, the delivery of video data to the client occurs over a network-connection that lasts for the lifetime of the session.”; Little, Table 4, “Query the VDB for the specified video”); **and a transmitter adapted to transmit the specified content to the client** (Little, p. 159, “The client requests the establishment of a connection with the VDB specified in the query process. In the VVB, the delivery of video data to the client occurs over a network-connection that lasts for the lifetime of the session.”).

As per **claim 113**, the combination of Little and Nuttall teach the **Apparatus as in claim 111, wherein the core server and the node server are each implemented, at least in part, in**

Control Number: 90/019,550

Page 230

Art Unit: 3992

**a computer** (Little, p. 157, “The VVB system architecture is designed to support many video-terminals, or clients, and video-databases, or servers, interconnected via a computer network (Fig. 5). [...]. A metadata server (possibly distributed) called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases. The video databases (VDBs) contain the video data (movies).”).

As per **claim 116**, the combination of Little and Nuttall teach the **Apparatus as in claim 111, further comprising the client** (Little, “many video-terminals, or clients” at p. 157), **the client comprising:**

**a transmitter** (inherent to client) **adapted to transmit the request for the specified content to the core server**

(Little, p. 149, “user queries are sent to a metadata server for processing”;

Little, p. 158, “When the user wishes to view a video, a query is made first to the QDB for an interpretation of user browsing operations. The delivery of the video data to the user begins after the user has browsed the selections, issued a command to ‘play,’ and has been given permission to do so from the server.”;

Little, pp. 158–159, “The query phase involves the querying of the QDB to get all information required by the client to obtain a selected movie or scene. The query mechanism is

Control Number: 90/019,550

Page 231

Art Unit: 3992

implemented using a remote procedure call<sup>[24]</sup> (RPC) between the client and the QDB (POSTGRES is the DBMS<sup>[25]</sup> used in the VVB implementation of the QDB).”);

**a receiver (inherent to client) adapted to receive the identity of the node server from the core server and to receive the specified content from the node server**

(p. 159, “The QDB has the additional functionality of guiding the client to the VDB that contains the desired information. The QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client.” and “The client requests the establishment of a connection with the VDB specified in the query process”; and

p. 160, Table 4 indicates that client makes a request to VDB using “database\_name” of VDB; because the QDB “guid[es] the client to the VDB that contains the desired information” (p. 159), and because the client uses “database\_name” in its request to the VDB (Table 4), a POSITA would understand that “the VDB specified in the query process” (p. 159) is specified by the QDB using the “database\_name,” i.e., the identity of the VDB in the form of “database\_name” is received by the client from the QDB).

As per **claim 118**, the combination of Little and Nuttall teach the **Apparatus as in claim 90, further comprising the client** (Little, “many video-terminals, or clients” at p. 157), **the client comprising:**

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<sup>24</sup> The term “remote procedure call” is understood as, “in programming, a call by one program to a second program on a remote system. The second program generally performs a task and returns the results of that task to the first program.” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 406.

<sup>25</sup> The term “DBMS” stands for “database management system,” which is understood as “A software interface between the database and the user. A database management system handles user requests for database actions and allows for control of security and data integrity requirements. *Acronym: DBMS [...]. Also called database manager. [...]*” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 129.

**a transmitter** (inherent to client) **adapted to transmit the request for the specified content to the core server**

(Little, p. 149, “user queries are sent to a metadata server for processing”;

Little, p. 158, “When the user wishes to view a video, a query is made first to the QDB for an interpretation of user browsing operations. The delivery of the video data to the user begins after the user has browsed the selections, issued a command to ‘play,’ and has been given permission to do so from the server.”;

Little, pp. 158–159, “The query phase involves the querying of the QDB to get all information required by the client to obtain a selected movie or scene. The query mechanism is implemented using a remote procedure call<sup>[26]</sup> (RPC) between the client and the QDB (POSTGRES is the DBMS<sup>[27]</sup> used in the VVB implementation of the QDB).”);

**a receiver** (inherent to client) **adapted to receive the identity of the node server from the core server and to receive the specified content from the node server**

(p. 159, “The QDB has the additional functionality of guiding the client to the VDB that contains the desired information. The QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client.” and “The client requests the establishment of a connection with the VDB specified in the query process”; and

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<sup>26</sup> The term “remote procedure call” is understood as, “in programming, a call by one program to a second program on a remote system. The second program generally performs a task and returns the results of that task to the first program.” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 406.

<sup>27</sup> The term “DBMS” stands for “database management system,” which is understood as “A software interface between the database and the user. A database management system handles user requests for database actions and allows for control of security and data integrity requirements. *Acronym: DBMS* [...]. *Also called* database manager. [...].” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 129.

Control Number: 90/019,550  
 Art Unit: 3992

Page 233

p. 160, Table 4 indicates that client makes a request to VDB using “database\_name” of VDB; because the QDB “guid[es] the client to the VDB that contains the desired information” (p. 159), and because the client uses “database\_name” in its request to the VDB (Table 4), a POSITA would understand that “the VDB specified in the query process” (p. 159) is specified by the QDB using the “database\_name,” i.e., the identity of the VDB in the form of “database\_name” is received by the client from the QDB).

As per **claim 119**, the combination of Little and Nuttall teach the **Apparatus as in claim 118, wherein the transmitter or the client is further adapted to transmit a request to the node server to transmit the specified content to the client** (Little, p. 159, “During connection setup, the client checks with the VDB to see if it can support a new connection.” and “The client requests the establishment of a connection with the VDB specified in the query process. In the VVB, the delivery of video data to the client occurs over a network-connection that lasts for the lifetime of the session.”; Little, Table 4, “Query the VDB for the specified video”; see also Figure 6, “RPC”).

As per **claim 120**, the combination of Little and Nuttall teach the **Apparatus as in claim 118, wherein the client further comprises computational apparatus, wherein the receiver, transmitter and/or computational apparatus of the client [is] adapted to monitor the characteristics of the transmission of the specified content from the node server to obtain auditing information regarding the transmission of the specified content from the node server to the client** (Nuttall, C8:L13–19, “At step 912, data from the content file header is added to the start report data structure. For data structure 1700, such data include the title, artist,

Control Number: 90/019,550

Page 234

Art Unit: 3992

copyright, duration, ID.code.type (whether ISRC, ISWC, or etc.), the ID.code.number, the content providing node address, and a file number (a serialized number assigned by encoding process 202).”), and wherein the transmitter of the client is further adapted to transmit the auditing information to the core server (Nuttall, fig. 9, 916 and 918; C9:L49–51, “Data structures 1700 and 1800 correspond to a single record of the start report and summary report respectively when instantiated in memory of reconciling node 118.”).

Therefore, when employing third party distributors (as VDBs), it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the client of Little to include the “computational apparatus [...] adapted to monitor [...]” and to modify the transmitter to transmit auditing information, as taught by Nuttall. One would have been motivated to do so in order for the client to report information that allows the QDB (as modified above in the rejection of claim 1) to “distinguish[...] valid complete data transfers from incomplete transfers” (Nuttall, *id.*) and thereby provide a client-side mechanism to report information needed by the QDB (as modified above in the rejection of claim 1) to determine transfers that initiate compensation due for distribution services, as also taught by Nuttall (e.g., see C4:L52–58, “For each valid complete transfer, reconciling node 118 allocates revenues generated from the debits of users’ accounts [and] initiates funds transfers with messages to banking node 114 on line 160 for payments of, for example, distribution fees and royalties”).

As per **claim 121**, the combination of Little and Nuttall teach the **Apparatus as in claim 118, wherein the core server and the client are each implemented, at least in part, in a computer** (Little, p. 157, “The VVB system architecture is designed to support many video-terminals, or clients, and video-databases, or servers, interconnected via a computer network

Control Number: 90/019,550  
 Art Unit: 3992

Page 235

(Fig. 5). [...]. A metadata server (possibly distributed) called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases. The video databases (VDBs) contain the video data (movies).”).

## 8.2. Obvious over Little/Nuttall, in view of Kenner

Claims 8, 40, and 97 are rejected under pre-AIA 35 USC § 103(a) as being unpatentable over Little/Nuttall, in view of Kenner.

As per **claim 8**, the combination of Little and Nuttall teaches the **Apparatus in claim 6**. Although Little teaches “[t]he QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client” (p. 159), Little/Nuttall does not expressly teach **wherein the means for obtaining information regarding the characteristics of the transmission of the content further comprises means for obtaining information regarding the bandwidth and/or latency performance associated with the transmission of the content**.

Kenner teaches **wherein [a] means for obtaining information regarding the characteristics of [a] transmission of [...] content further comprises means for obtaining information regarding the bandwidth and/or latency performance associated with the transmission of the content** (C25:21–41, “The DSI 58 invoked by the PIM 64 selects the highest priority (least loaded) SRU 66 from the list provided by the PIM 64. [...] information on download latency (i.e. which SRUs were unable to handle the download, and how long it took

Control Number: 90/019,550  
Art Unit: 3992

Page 236

the successful SRU to begin the successful transfer) is sent back to the PIM 64, to allow the PIM 64 to dynamically recalculate priorities and apparent loads. [...] The DSI process 58 can be hosted by the PIM 64, [...].”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the QDB of Little to include the “means for obtaining [...]” taught by Kenner. One would have been motivated to do so in order for the QDB to dynamically recalculate VDBs that are the “least loaded” (Kenner, *id.*) when directing the client to a particular VDB.

As per **claim 40**, the combination of Little and Nuttall teaches **A computer readable storage medium or media as in claim 38**. Although Little teaches “[t]he QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client” (p. 159), Little/Nuttall does not expressly teach **wherein the instructions for obtaining information regarding the characteristics of the transmission of the content further comprise instructions for obtaining information regarding the bandwidth and/or latency performance associated with the transmission of the content**.

Kenner teaches **wherein [a] instructions for obtaining information regarding the characteristics of [a] transmission of [...] content further comprise instructions for obtaining information regarding the bandwidth and/or latency performance associated with the transmission of the content** (C25:21–41, “The DSI 58 invoked by the PIM 64 selects the highest priority (least loaded) SRU 66 from the list provided by the PIM 64. [...] information on download latency (i.e. which SRUs were unable to handle the download, and how long it took the successful SRU to begin the successful transfer) is sent back to the PIM 64, to allow the PIM

Control Number: 90/019,550

Page 237

Art Unit: 3992

64 to dynamically recalculate priorities and apparent loads. [...] The DSI process 58 can be hosted by the PIM 64, [...].”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the medium of Little to include the “instructions for obtaining [...]” taught by Kenner. One would have been motivated to do so in order for the medium (QDB) to dynamically recalculate VDBs that are the “least loaded” (Kenner, *id.*) when directing the client to a particular VDB.

As per **claim 97**, the combination of Little and Nuttall teaches the **Apparatus as in claim 95**. Although Little teaches “[t]he QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client” (p. 159), Little/Nuttall does not expressly teach **wherein the information regarding the characteristics of the transmission of the content comprises information regarding the bandwidth and/or latency performance associated with the transmission of the content**.

Kenner teaches **wherein [...] information regarding the characteristics of [...] transmission of [...] content comprises information regarding the bandwidth and/or latency performance associated with the transmission of the content** (C25:21–41, “The DSI 58 invoked by the PIM 64 selects the highest priority (least loaded) SRU 66 from the list provided by the PIM 64. [...] information on download latency (i.e. which SRUs were unable to handle the download, and how long it took the successful SRU to begin the successful transfer) is sent back to the PIM 64, to allow the PIM 64 to dynamically recalculate priorities and apparent loads. [...] The DSI process 58 can be hosted by the PIM 64, [...].”).

Control Number: 90/019,550  
 Art Unit: 3992

Page 238

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the information in Little/Nuttall/Auerbach to include the information taught by Kenner. One would have been motivated to do so in order for the QDB to dynamically recalculate VDBs that are the “least loaded” (Kenner, *id.*) when directing the client to a particular VDB.

### **8.3. Obvious over Little/Nuttall, in view of Auerbach**

Claims 9–11, 12–13, 23, 41–45, 50, 55–63, 65–68, 70–74, 77–79, 81, 84–87, 98–102, and 112 are rejected under pre-AIA 35 USC § 103(a) as being unpatentable over Little/Nuttall, in view of Auerbach.

As per **claim 9**, the combination of Little and Nuttall teaches the **Apparatus as in claim 1, the core server further comprising:**

**means for identifying a plurality of node servers within the network that have at least part of the specified content stored thereon**

(Little, p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”);

**[...]; and**

**means for communicating the identity of the candidate node servers to the client to enable the client to request transmission of the specified content via the network from one or more of the candidate node servers**

Control Number: 90/019,550  
Art Unit: 3992

Page 239

(Little, p. 159, “The QDB has the additional functionality of guiding the client to the VDB that contains the desired information. The QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client.” and “The client requests the establishment of a connection with the VDB specified in the query process”; and

Little, p. 160, Table 4 indicates that client makes a request to VDB using “database\_name” of VDB; because the QDB “guid[es] the client to the VDB that contains the desired information” (p. 159), and because the client uses “database\_name” in its request to the VDB (Table 4), a POSITA would understand that “the VDB specified in the query process” (p. 159) is specified by the QDB using the “database\_name,” i.e., the identity of the VDB in the form of “database\_name” is provided by the QDB to the client).

Although Little teaches “[t]he QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client,” Little does not expressly teach **means for selecting from the plurality of node servers one or more candidate node servers**.<sup>28</sup>

Auerbach teaches **means for selecting from the plurality of node servers one or more candidate node servers** (C6:L33–37, “The choice of a particular video server to fill requests is based upon the proximity between the client and various potential video servers. The logic that

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<sup>28</sup> As noted above, the corresponding structure for this element includes an algorithm comprising *selecting a node server(s) as a candidate node server(s) based on an analysis of the topological relationship between the client and the node server(s)*. Furthermore, “topological relationship” is interpreted as *physical relationship*. See 376 Patent at C5:L9–13 (“FIG. 1 is a simplified illustration of a system in accordance with the invention; typically, the relationships between network sites—both physical (topological) connections and client-server roles—are more complicated than shown in FIG. 1.”).

Control Number: 90/019,550

Page 240

Art Unit: 3992

makes this decision is represented by a content control system block 215 connected to network 203.”; C6:L43–45, “The client’s request should be filled by the video server most ‘proximate’ to client 213.”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the core server of Little/Nuttall to include the “means for selecting [...],” as taught by Auerbach. One would have been motivated to do so “in order to improve, and perhaps even to optimize, the delivery of content to client devices and end-users” (Auerbach, C2:L5–7).

As per **claim 10**, the combination of Little/Nuttall/Auerbach teaches the **Apparatus as in claim 9, the core server further comprising:**

**means for determining the location of the client within the network** (Auerbach, C7:L18–23, “FIG. 2B presents a process flow diagram for a general procedure that may be employed to identify a particular server for [...] providing content to clients. Process 240 begins at 242 with the content control system receiving or otherwise identifying the location of one or more clients that will require the content.”);

**means for identifying the locations of the plurality of node servers that have at least part of the requested content stored thereon**

(Little, p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”);

Control Number: 90/019,550  
Art Unit: 3992

Page 241

See also Auerbach, C7:L27–30, “Next, at 244, the content control system receives or otherwise determines the locations of two or more servers that can potentially fill the needs of the clients referred to at 242.”);

**wherein the means for selecting one or more candidate node servers further comprises means for selecting from the plurality of node servers one or more candidate node servers that are determined to be topologically proximate to the client** (Auerbach, C6:L33–37, “The choice of a particular video server to fill requests is based upon the proximity between the client and various potential video servers. The logic that makes this decision is represented by a content control system block 215 connected to network 203.”; C6:L43–45, “The client’s request should be filled by the video server most ‘proximate’ to client 213.”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to also modify the core server of Little/Nuttall to include the “means for determining the location of the client [...],” as taught by Auerbach. One would have been motivated to do so in order to calculate the proximity of the client to the video distribution server, which is input required by both of the “means for selecting [...],” (e.g., see Auerbach, C7:L31–33, “With the locations of the various network entities now in hand, the content control system must determine relevant proximities.”).

As per **claim 11**, the combination of Little/Nuttall/Auerbach teaches the **Apparatus as in claim 10, wherein the determination of topological proximity to the client is performed using a breadth-first search to identify node servers that satisfy a criterion regarding topological proximity to the client** (Auerbach, C11:L9–16).

Control Number: 90/019,550  
Art Unit: 3992

Page 242

As per **claim 12**, the combination of Little and Nuttall teaches the **Apparatus as in claim 1, the core server further comprising: means for identifying a network site that will act as a node server for distribution of the specified content** (Little, p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”).

The combination of Little and Nuttall does not expressly teach **a means for providing the specified content to the node server.**

Auerbach teaches **a means for providing the specified content to the node server** (C6:L1–41, e.g., “a content control system initially receives a trigger event (103) such as a new title becoming available at a video library or client requests going unfilled,” “a content library 214 that stores various video titles which may be provided to one or more of the video servers. If a new video title becomes available on content library 214 and a particular video server determines that it will likely need that title to fill client request, that title may be loaded from content library 214 to the appropriate video server,” and “Note that content control system 215 may be distributed over multiple entities on the network and may reside, partially or completely, on a content library, a video server, or even a 40 client.”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the content control system of Little (i.e., the QDB) to include a “means for providing [...],” as taught by Auerbach. One would have been motivated to do so in order to “employ[...] anticipatory loading of content from a library to a server based upon the server’s proximity to a given client-base” (Auerbach, C2:L19–21) “in order to improve, and

Control Number: 90/019,550

Page 243

Art Unit: 3992

perhaps even to optimize, the delivery of content to client devices and end-users” (Auerbach, C2:L5–7).

As per **claim 13**, the combination of Little/Nuttall/Auerbach teaches the **Apparatus as in claim 12, wherein the means for identifying a network site that will act as a node server for distribution of the specified content further comprises:**

**means for identifying the location of a prospective node server** (Auerbach, “first server” or “second server”) **that desires to act as a node server for distribution of the specified content** (Auerbach, C2:L64–C3:L1, “the sequence may include (i) determining a first loading proximity between a source of the content and the first server and (ii) determining a second loading proximity between a source of the content and the second server.”; Auerbach, C3:L14–17, “Preferably, at least one of the first and second proximities is determined by a combination of the following factors: bandwidth, number of hops, congestion, noise and loss on a network segment, and charges incurred to send.”; Auerbach, C11:L39–46, “Topology Discovery. There are techniques, often used in network management platforms, to determine network topology and population. Generally, topology discovery determines which nodes are connected to which other nodes by links. In other words, it simply determines the ‘topology’ of a network. Topology discovery techniques may employ combinations of SNMP queries, ICMP echo requests, ‘pings,’ ICMP subnet mask requests, and traceroutes.”; Auerbach, C7:L53–55, “Note that each ‘proximity’ used in this process may be generated according to the procedures described herein.”);

**means for identifying the location of one or more other existing node servers** (Auerbach, “source of the content”) **that can act as a node server for distribution of the**

Control Number: 90/019,550  
Art Unit: 3992

Page 244

**specified content** (Auerbach, C2:L64–C3:L1, “the sequence may include (i) determining a first loading proximity between a source of the content and the first server and (ii) determining a second loading proximity between a source of the content and the second server.”; Auerbach, C3:L14–17, “Preferably, at least one of the first and second proximities is determined by a combination of the following factors: bandwidth, number of hops, congestion, noise and loss on a network segment, and charges incurred to send.”; Auerbach, C11:L39–46, “Topology Discovery. There are techniques, often used in network management platforms, to determine network topology and population. Generally, topology discovery determines which nodes are connected to which other nodes by links. In other words, it simply determines the ‘topology’ of a network. Topology discovery techniques may employ combinations of SNMP queries, ICMP echo requests, ‘pings,’ ICMP subnet mask requests, and traceroutes.”; Auerbach, C7:L53–55, “Note that each ‘proximity’ used in this process may be generated according to the procedures described herein.”); **and**

**means for determining the topological proximity of the prospective node server to the existing node servers** (Auerbach, C2:L64–C3:L1, “the sequence may include (i) determining a first loading proximity between a source of the content and the first server and (ii) determining a second loading proximity between a source of the content and the second server.”; see also Auerbach, C7:L18–62; Auerbach, C7:L53–55, “Note that each ‘proximity’ used in this process may be generated according to the procedures described herein.”),

**wherein the prospective node server is selected as a node server for distribution of the specified content if the prospective node server satisfies a criterion regarding topological proximity to the existing node servers**

Control Number: 90/019,550  
Art Unit: 3992

Page 245

(note: the “wherein” clause does not describe structure of the claimed “computer readable storage medium or media,” therefore, although citations to the prior art are provided below for compact prosecution purposes, the “wherein” clause is not given patentable weight;

Auerbach, C3:L1–4, “In this case, the first and second loading proximities are used together with the first and second proximities to determine which of the first and second servers should receive the content.”; see also C7:L18–62).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the content control system of Little (i.e., the QDB) to include the two “means for identifying [...]” and the “means for determining [...],” as taught by Auerbach. One would have been motivated to do so to compare costs between using one prospective node server (VDB of Little) versus a second prospective node server, and to select and load content to the node server with a least cost based at least in-part on proximity to a source of the content, as taught by Auerbach at C7:L18–62.

As per **claim 23**, the combination of Little and Nuttall teaches the **Apparatus as in claim 22, wherein: the core server further comprises:**

**means for identifying a network site that will act as a node server for distribution of the specified content** (Little, p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”).

Control Number: 90/019,550  
Art Unit: 3992

Page 246

The combination of Little and Nuttall does not expressly teach **means for providing the specified content to the node server; and the node server further comprises means for receiving the specified content from the core server.**

Auerbach teaches **a means for providing the specified content to the node server; and the node server further comprises means for receiving the specified content from the core server** (C6:L1–41, e.g., “a content control system initially receives a trigger event (103) such as a new title becoming available at a video library or client requests going unfilled,” “a content library 214 that stores various video titles which may be provided to one or more of the video servers. If a new video title becomes available on content library 214 and a particular video server determines that it will likely need that title to fill client request, that title may be loaded from content library 214 to the appropriate video server,” and “Note that content control system 215 may be distributed over multiple entities on the network and may reside, partially or completely, on a content library, a video server, or even a 40 client.”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the content control system of Little (i.e., the QDB) to include a “means for providing [...]” as taught by Auerbach, and to modify the node server of Little (i.e., the VDBs) to include a “means for receiving [...]” as also taught by Auerbach. One would have been motivated to do so in order to “employ[...] anticipatory loading of content from a library to a server based upon the server’s proximity to a given client-base” (Auerbach, C2:L19–21) “in order to improve, and perhaps even to optimize, the delivery of content to client devices and end-users” (Auerbach, C2:L5–7).

Control Number: 90/019,550  
 Art Unit: 3992

Page 247

As per **claim 35**, Little discloses **Apparatus** (“VVB System,” e.g., p. 157, “VVB system architecture is designed to support many video terminals, or clients, and video-databases, or servers, interconnected via a computer network (Fig. 5)”) **for effecting the provision of content over a network** (p. 156, “a simple query interface that lets users specify their preferences to the system to retrieve the appropriate video”; p. 157, “video databases (VDBs) contain the video data (movies)”; fig. 5, “computer network”), **comprising**

**a core server**

(p. 157, “[a] metadata server [...] called the query-database (QDB)”;

p. 158, Figure 5, shows “query data base” on a “computer network”; and

p. 158, Figure 6, shows a “Query DB Server” in conjunction with “Query Database”),

**the core server (“QDB”) comprising:**

**means for receiving a request for content from a client**

(p. 149, “user queries are sent to a metadata server for processing”;

p. 158, “When the user wishes to view a video, a query is made first to the QDB for an interpretation of user browsing operations. The delivery of the video data to the user begins after the user has browsed the selections, issued a command to ‘play,’ and has been given permission to do so from the server.”;

pp. 158–159, “The query phase involves the querying of the QDB to get all information required by the client to obtain a selected movie or scene. The query mechanism is implemented

Control Number: 90/019,550

Page 248

Art Unit: 3992

using a remote procedure call<sup>[29]</sup> (RPC) between the client and the QDB (POSTGRES is the DBMS<sup>[30]</sup> used in the VVB implementation of the QDB).”; and

p. 163, Figure 9, the “postgres DBMS” is indicated as “COTS [(commercial off-the-shelf)] software”);

[...];

**means for identifying the location of a plurality of node servers within the network that have at least part of the requested content stored thereon** (p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”);

[...]; [and]

**means for communicating the identity of the candidate node servers** (e.g., p. 157, one of “video-databases, or servers”; also “VDB” in citations below) **to the client to enable the client to request transmission of the requested content via the network from one or more of the candidate node servers**

(p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the

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<sup>29</sup> The term “remote procedure call” is understood as, “in programming, a call by one program to a second program on a remote system. The second program generally performs a task and returns the results of that task to the first program.” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 406.

<sup>30</sup> The term “DBMS” stands for “database management system,” which is understood as “A software interface between the database and the user. A database management system handles user requests for database actions and allows for control of security and data integrity requirements. *Acronym: DBMS [...]. Also called database manager. [...]*” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 129.

Control Number: 90/019,550

Page 249

Art Unit: 3992

availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”;

p. 159, “The QDB has the additional functionality of guiding the client to the VDB that contains the desired information. The QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client.” and “The client requests the establishment of a connection with the VDB specified in the query process”; and

p. 160, Table 4 indicates that client makes a request to VDB using “database\_name” of VDB; because the QDB “guid[es] the client to the VDB that contains the desired information” (p. 159), and because the client uses “database\_name” in its request to the VDB (Table 4), a POSITA would understand that “the VDB specified in the query process” (p. 159) is specified by the QDB using the “database\_name,” i.e., the identity of the VDB in the form of “database\_name” is provided by the QDB to the client) [...].

Little does not expressly disclose:

**means for determining the location of the client within the network;**

**means for selecting from the plurality of node servers one or more candidate node servers that are determined to be topologically proximate to the client; and**

**means for ascertaining which of the one or more of the candidate node servers transmitted requested content to the client,**

**wherein an owner of such node server is offered an incentive as compensation for transmission of requested content to the client.**

Control Number: 90/019,550  
Art Unit: 3992

Page 250

Auerbach is directed to proximity as an aid to caching and secondary serving of data. Auerbach discloses orchestrating the propagation or positioning of content based upon “proximity” between various nodes on a network. (see C2:L10–12).

In particular, Auerbach teaches,

**means for determining the location of the client within the network** (Auerbach, C7:L18–23, “FIG. 2B presents a process flow diagram for a general procedure that may be employed to identify a particular server for [...] providing content to clients. Process 240 begins at 242 with the content control system receiving or otherwise identifying the location of one or more clients that will require the content.”); **and**

**means for selecting from the plurality of node servers one or more candidate node servers that are determined to be topologically proximate to the client** (Auerbach, C6:L33–37, “The choice of a particular video server to fill requests is based upon the proximity between the client and various potential video servers. The logic that makes this decision is represented by a content control system block 215 connected to network 203.”; C6:L43–45, “The client’s request should be filled by the video server most ‘proximate’ to client 213.”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the core server of Little to include the “means for selecting [...],” as taught by Auerbach. One would have been motivated to do so “in order to improve, and perhaps even to optimize, the delivery of content to client devices and end-users” (Auerbach, C2:L5–7).

Moreover, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to also modify the core server of Little to include the “means for determining the location of the client [...],” as taught by Auerbach. One would have been

Control Number: 90/019,550  
 Art Unit: 3992

Page 251

motivated to do so in order to calculate the proximity of the client to the video distribution server, which is input required by the “means for selecting [...]” (e.g., see Auerbach, C7:L31–33, “With the locations of the various network entities now in hand, the content control system must determine relevant proximities.”).

Nuttall is directed to a method for computer network operation providing basis for usage fees. Nuttall discloses a system for controlling the distribution and use of digital content that includes a distribution and usage reporting mechanism for accurately calculating fees associated with such distribution and use (see C1:L56–59).

In particular, , Nuttall teaches a **server** (“reconciling node 118”) **comprising means for ascertaining which of the one or more of the candidate node servers transmitted requested content to the client.**<sup>31</sup>

Specifically, the enumerated citations below show that Nuttall teaches a server (“reconciling node 118” shown in fig. 4) comprising an algorithm comprising after delivery of specified content from the node server to the client, auditing (“comparing” or “reconcil[ing]”) a message from the client and/or the node server indicating whether the content was delivered from the node server (“report 336,” received on line 158 of fig. 1; or “[r]eports 326 and 328,” received on line 152 of fig. 1).

(1) C4:L29–31, “a reconciliation of reports from a variety of network nodes that are reported at separate times during the data transfer process”;

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<sup>31</sup> As noted above, the corresponding structure for this element includes an algorithm comprising *after delivery of specified content from the node server to the client, auditing a message from the client and/or the node server indicating whether the content was delivered from the node server.*

Control Number: 90/019,550  
 Art Unit: 3992

Page 252

(2) C4:L47–52, “By comparing reports received on lines 152, 154, 156, and possibly 158 (from content providing node 108), reconciling node 118 distinguishes valid complete data transfers from incomplete transfers and from events that could indicate intentional interference with the integrity of network 100”; and

(3) C9:L47–54, “Reports 326 and 328 respectively provide the start and summary information from content requesting node 110. Data structures 1700 and 1800 correspond to a single record of the start report and summary report respectively when instantiated in memory of reconciling node 118. Finally, report 336 describing what content files were sent and when sent may be generated by content providing node 108.”

Nuttall further teaches **wherein an owner of such node server is offered an incentive as compensation for transmission of requested content to the client**

(note: this “wherein” clause does not describe structure of the claimed “core server;”<sup>32</sup> therefore, although citations to the prior art are provided below for compact prosecution purposes, the “wherein” clause is not given patentable weight;

C4:L25–27, “making payment for distribution services to at least the operator of content providing node 108”;

C4:L52–58, “For each valid complete transfer, reconciling node 118 allocates revenues generated from the debits of users’ accounts [and] initiates funds transfers with messages to banking node 114 on line 160 for payments of, for example, distribution fees and royalties”; and

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<sup>32</sup> See, e.g., 376 Patent at C22:L56–61, “For example, at the beginning of operation of a system according to the invention in which **a core server owner offers incentive(s)** for distribution of content on behalf of the core server owner, the **core server owner may offer** relatively generous **incentive(s)** in order to induce network site owners to agree to allow their network sites to be used as node servers.” (Emphasis added).

Control Number: 90/019,550  
Art Unit: 3992

Page 253

C10:L38–40, “Allocation of earnings by process 408 follows the identification of such a reconciliation result.”).

Little further discloses “[t]he advantage of [its] system architecture is its scalability” and “[i]t is impractical to expect a single site to store all data and provide interactive services to thousands of users.” (p. 167).

In view of the above findings from Little and Nuttall, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the system of Little/Auerbach to employ third party distributors (as VDBs) and to provide compensation for transmission of content to each distributor, as taught by Nuttall, in order to incentivize enough participation to achieve the “scalability” and “thousands of users” desired by Little (*id.*).

Moreover, when employing third party distributors (as VDBs), it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to include the “means for ascertaining [...],” as taught by Nuttall. One would have been motivated to do so in order “distinguish[...] valid complete data transfers from incomplete transfers” (Nuttall, *id.*) and thereby provide a mechanism to determine transfers that initiate compensation due for distribution services, as also taught by Nuttall (e.g., see C4:L52–58, “For each valid complete transfer, reconciling node 118 allocates revenues generated from the debits of users’ accounts [and] initiates funds transfers with messages to banking node 114 on line 160 for payments of, for example, distribution fees and royalties”).

Furthermore, as noted above, Little’s system (“VVB system” at p. 157) is made up of clients that request videos (“many video-terminals, or clients” at p. 157), video servers (VDBs) that provide videos (“video-databases, or servers” and “video databases (VDBs) contain the

Control Number: 90/019,550  
Art Unit: 3992

Page 254

video data (movies),” at p. 157), and a central server, metadata sever (“QDB” at p. 157), that provides the clients with information about the videos (“information about the availability of videos and their locations within the VOD system” at p. 157).

Moreover, Little’s QDB (“core server”) is the hub of the system (“the QDB is located at a single site known to all network stations” at pp. 157–158).

Therefore, it would also have been obvious to one of ordinary skill in the art, at the time the invention was made, to locate the “means for ascertaining [...],” as taught by Nuttall, in the QDB (core server) of Little/Auerbach. One would have been motivated to do so because the QDB is the hub of Little’s system, i.e., the single site known to all network stations, and therefore would be understood by a POSITA as a logical choice to include a “means for ascertaining [...]” that collects reports from various network stations across a network, as taught by Nuttall, and this choice produces predictable results.

As per **36**, Little discloses **Apparatus** (“VVB System,” e.g., p. 157, “VVB system architecture is designed to support many video terminals, or clients, and video-databases, or servers, interconnected via a computer network (Fig. 5)”) **for effecting the provision of content over a network** (p. 156, “a simple query interface that lets users specify their preferences to the system to retrieve the appropriate video”; p. 157, “video databases (VDBs) contain the video data (movies)”; fig. 5, “computer network”), **comprising**

**a core server**

(p. 157, “[a] metadata server [...] called the query-database (QDB)”;

p. 158, Figure 5, shows “query data base” on a “computer network”; and

p. 158, Figure 6, shows a “Query DB Server” in conjunction with “Query Database”),

Control Number: 90/019,550  
 Art Unit: 3992

Page 255

**the core server (“QDB”) comprising:**

**means for identifying which of a plurality of sets of content or parts of the plurality of sets of content are stored by each of a plurality of node servers that are part of the network** (p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”),

**wherein at least one of the plurality of sets of content or parts of the plurality of sets of content is stored on redundant node servers** (p. 159, “[i]f the connection cannot be supported, the server sends back a ‘connection refused’ message and the client must repeat the query to the QDB to find an alternate source of data.”);

**means for receiving a request from a client that is part of the network for transmission of a set of content to the client**

(p. 149, “user queries are sent to a metadata server for processing”;

p. 158, “When the user wishes to view a video, a query is made first to the QDB for an interpretation of user browsing operations. The delivery of the video data to the user begins after the user has browsed the selections, issued a command to ‘play,’ and has been given permission to do so from the server.”;

pp. 158–159, “The query phase involves the querying of the QDB to get all information required by the client to obtain a selected movie or scene. The query mechanism is implemented

Control Number: 90/019,550

Page 256

Art Unit: 3992

using a remote procedure call<sup>[33]</sup> (RPC) between the client and the QDB (POSTGRES is the DBMS<sup>[34]</sup> used in the VVB implementation of the QDB).”; and

p. 163, Figure 9, the “postgres DBMS” is indicated as “COTS [(commercial off-the-shelf)] software”),

**wherein at least part of the requested set of content is stored on redundant node servers** (p. 159, “[i]f the connection cannot be supported, the server sends back a ‘connection refused’ message and the client must repeat the query to the QDB to find an alternate source of data.”);

**[...]; [and]**

**means for communicating the identity of the candidate node servers** (e.g., p. 157, one of “video-databases, or servers”; also “VDB” in citations below) **to the client to enable the client to request transmission of the requested content via the network from one or more of the candidate node servers**

(p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”;

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<sup>33</sup> The term “remote procedure call” is understood as, “in programming, a call by one program to a second program on a remote system. The second program generally performs a task and returns the results of that task to the first program.” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 406.

<sup>34</sup> The term “DBMS” stands for “database management system,” which is understood as “A software interface between the database and the user. A database management system handles user requests for database actions and allows for control of security and data integrity requirements. *Acronym: DBMS [...]. Also called database manager. [...]*” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 129.

Control Number: 90/019,550

Page 257

Art Unit: 3992

p. 159, “The QDB has the additional functionality of guiding the client to the VDB that contains the desired information. The QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client.” and “The client requests the establishment of a connection with the VDB specified in the query process”; and

p. 160, Table 4 indicates that client makes a request to VDB using “database\_name” of VDB; because the QDB “guid[es] the client to the VDB that contains the desired information” (p. 159), and because the client uses “database\_name” in its request to the VDB (Table 4), a POSITA would understand that “the VDB specified in the query process” (p. 159) is specified by the QDB using the “database\_name,” i.e., the identity of the VDB in the form of “database\_name” is provided by the QDB to the client) [...].

Little does not expressly disclose:

**means for selecting from the plurality of node servers one or more candidate node servers that have stored thereon at least part of the requested set of content; and**

**means for ascertaining which of the one or more of the candidate node servers transmitted requested content to the client,**

**wherein an owner of such node server is offered an incentive as compensation for transmission of requested content to the client.**

Control Number: 90/019,550  
Art Unit: 3992

Page 258

Auerbach is directed to proximity as an aid to caching and secondary serving of data.

Auerbach discloses orchestrating the propagation or positioning of content based upon “proximity” between various nodes on a network. (see C2:L10–12).

In particular, Auerbach teaches,

**means for selecting from the plurality of node servers one or more candidate node servers that have stored thereon at least part of the requested set of content** (Auerbach, C6:L33–37, “The choice of a particular video server to fill requests is based upon the proximity between the client and various potential video servers. The logic that makes this decision is represented by a content control system block 215 connected to network 203.”; C6:L43–45, “The client’s request should be filled by the video server most ‘proximate’ to client 213.”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the core server of Little to include the “means for selecting [...],” as taught by Auerbach. One would have been motivated to do so “in order to improve, and perhaps even to optimize, the delivery of content to client devices and end-users” (Auerbach, C2:L5–7).

Nuttall is directed to a method for computer network operation providing basis for usage fees. Nuttall discloses a system for controlling the distribution and use of digital content that includes a distribution and usage reporting mechanism for accurately calculating fees associated with such distribution and use (see C1:L56–59).

Control Number: 90/019,550

Page 259

Art Unit: 3992

In particular, Nuttall teaches a **server** (“reconciling node 118”) **comprising means for ascertaining which of the one or more of the candidate node servers transmitted requested content to the client.**<sup>35</sup>

Specifically, the enumerated citations below show that Nuttall teaches a server (“reconciling node 118” shown in fig. 4) comprising an algorithm comprising after delivery of specified content from the node server to the client, auditing (“comparing” or “reconcil[ing]”) a message from the client and/or the node server indicating whether the content was delivered from the node server (“report 336,” received on line 158 of fig. 1; or “[r]eports 326 and 328,” received on line 152 of fig. 1).

(1) C4:L29–31, “a reconciliation of reports from a variety of network nodes that are reported at separate times during the data transfer process”;

(2) C4:L47–52, “By comparing reports received on lines 152, 154, 156, and possibly 158 (from content providing node 108), reconciling node 118 distinguishes valid complete data transfers from incomplete transfers and from events that could indicate intentional interference with the integrity of network 100”; and

(3) C9:L47–54, “Reports 326 and 328 respectively provide the start and summary information from content requesting node 110. Data structures 1700 and 1800 correspond to a single record of the start report and summary report respectively when instantiated in memory of reconciling node 118. Finally, report 336 describing what content files were sent and when sent may be generated by content providing node 108.”

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<sup>35</sup> As noted above, the corresponding structure for this element includes an algorithm comprising *after delivery of specified content from the node server to the client, auditing a message from the client and/or the node server indicating whether the content was delivered from the node server.*

Control Number: 90/019,550  
 Art Unit: 3992

Page 260

Nuttall further teaches **wherein an owner of such node server is offered an incentive as compensation for transmission of requested content to the client**

(note: this “wherein” clause does not describe structure of the claimed “core server;”<sup>36</sup> therefore, although citations to the prior art are provided below for compact prosecution purposes, the “wherein” clause is not given patentable weight;

C4:L25–27, “making payment for distribution services to at least the operator of content providing node 108”;

C4:L52–58, “For each valid complete transfer, reconciling node 118 allocates revenues generated from the debits of users’ accounts [and] initiates funds transfers with messages to banking node 114 on line 160 for payments of, for example, distribution fees and royalties”; and

C10:L38–40, “Allocation of earnings by process 408 follows the identification of such a reconciliation result.”).

Little further discloses “[t]he advantage of [its] system architecture is its scalability” and “[i]t is impractical to expect a single site to store all data and provide interactive services to thousands of users.” (p. 167).

In view of the above findings from Little and Nuttall, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the system of Little/Auerbach to employ third party distributors (as VDBs) and to provide compensation for

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<sup>36</sup> See, e.g., 376 Patent at C22:L56–61, “For example, at the beginning of operation of a system according to the invention in which **a core server owner offers incentive(s)** for distribution of content on behalf of the core server owner, the **core server owner may offer** relatively generous **incentive(s)** in order to induce network site owners to agree to allow their network sites to be used as node servers.” (Emphasis added).

Control Number: 90/019,550  
Art Unit: 3992

Page 261

transmission of content to each distributor, as taught by Nuttall, in order to incentivize enough participation to achieve the “scalability” and “thousands of users” desired by Little (*id.*).

Moreover, when employing third party distributors (as VDBs), it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to include the “means for ascertaining [...]” as taught by Nuttall. One would have been motivated to do so in order “distinguish[...] valid complete data transfers from incomplete transfers” (Nuttall, *id.*) and thereby provide a mechanism to determine transfers that initiate compensation due for distribution services, as also taught by Nuttall (e.g., see C4:L52–58, “For each valid complete transfer, reconciling node 118 allocates revenues generated from the debits of users’ accounts [and] initiates funds transfers with messages to banking node 114 on line 160 for payments of, for example, distribution fees and royalties”).

Furthermore, as noted above, Little’s system (“VVB system” at p. 157) is made up of clients that request videos (“many video-terminals, or clients” at p. 157), video servers (VDBs) that provide videos (“video-databases, or servers” and “video databases (VDBs) contain the video data (movies),” at p. 157), and a central server, metadata sever (“QDB” at p. 157), that provides the clients with information about the videos (“information about the availability of videos and their locations within the VOD system” at p. 157).

Moreover, Little’s QDB (“core server”) is the hub of the system (“the QDB is located at a single site known to all network stations” at pp. 157–158).

Therefore, it would also have been obvious to one of ordinary skill in the art, at the time the invention was made, to locate the “means for ascertaining [...]” as taught by Nuttall, in the QDB (core server) of Little/Auerbach. One would have been motivated to do so because the QDB is the hub of Little’s system, i.e., the single site known to all network stations, and

Control Number: 90/019,550

Page 262

Art Unit: 3992

therefore would be understood by a POSITA as a logical choice to include a “means for ascertaining [...]” that collects reports from various network stations across a network, as taught by Nuttall, and this choice produces predictable results.

As per **claim 41**, the combination of Little and Nuttall teaches **A computer readable storage medium or media as in claim 37, further comprising:**

**instructions for identifying a plurality of node servers within the network that have at least part of the requested content stored thereon**

(Little, p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”);

**[...]; and**

**instructions for communicating the identity of the candidate node servers to the client to enable the client to request transmission of the specified content via the network from one or more of the candidate node servers**

(Little, p. 159, “The QDB has the additional functionality of guiding the client to the VDB that contains the desired information. The QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client.” and “The client requests the establishment of a connection with the VDB specified in the query process”; and

Little, p. 160, Table 4 indicates that client makes a request to VDB using “database\_name” of VDB; because the QDB “guid[es] the client to the VDB that contains the

desired information” (p. 159), and because the client uses “database\_name” in its request to the VDB (Table 4), a POSITA would understand that “the VDB specified in the query process” (p. 159) is specified by the QDB using the “database\_name,” i.e., the identity of the VDB in the form of “database\_name” is provided by the QDB to the client).

Although Little teaches “[t]he QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client,” Little does not expressly teach **instructions for selecting from the plurality of node servers one or more candidate node servers**.<sup>37</sup>

Auerbach teaches **instructions for selecting from the plurality of node servers one or more candidate node servers** (C6:L33–37, “The choice of a particular video server to fill requests is based upon the proximity between the client and various potential video servers. The logic that makes this decision is represented by a content control system block 215 connected to network 203.”; C6:L43–45, “The client's request should be filled by the video server most ‘proximate’ to client 213.”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the medium of Little/Nuttall to include the “instructions for selecting [...]” as taught by Auerbach. One would have been motivated to do so “in order to

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<sup>37</sup> As noted above, the corresponding structure for this element includes an algorithm comprising *selecting a node server(s) as a candidate node server(s) based on an analysis of the topological relationship between the client and the node server(s)*. Furthermore, “topological relationship” is interpreted as *physical relationship*. See 376 Patent at C5:L9–13 (“FIG. 1 is a simplified illustration of a system in accordance with the invention; typically, the relationships between network sites—both physical (topological) connections and client-server roles—are more complicated than shown in FIG. 1.”).

Control Number: 90/019,550

Page 264

Art Unit: 3992

improve, and perhaps even to optimize, the delivery of content to client devices and end-users”

(Auerbach, C2:L5–7).

As per **claim 42**, the combination of Little/Nuttall/Auerbach teaches **A computer readable storage medium or media as in claim 41, further comprising:**

**instructions for determining the location of the client within the network** (Auerbach, C7:L18–23, “FIG. 2B presents a process flow diagram for a general procedure that may be employed to identify a particular server for [...] providing content to clients. Process 240 begins at 242 with the content control system receiving or otherwise identifying the location of one or more clients that will require the content.”);

**instructions for identifying the locations of the plurality of node servers that can act as a node server for distribution of the specified content**

(Little, p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”);

See also Auerbach, C7:L27–30, “Next, at 244, the content control system receives or otherwise determines the locations of two or more servers that can potentially fill the needs of the clients referred to at 242.”);

**instructions for identifying the locations of the plurality of node servers that have at least part of the requested content stored thereon**

(Little, p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also

Control Number: 90/019,550  
Art Unit: 3992

Page 265

maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”;

See also Auerbach, C7:L27–30, “Next, at 244, the content control system receives or otherwise determines the locations of two or more servers that can potentially fill the needs of the clients referred to at 242.”);

**wherein the instructions for selecting one or more candidate node servers further comprise instructions for selecting from the plurality of node servers one or more candidate node servers that are determined to be topologically proximate to the client** (Auerbach, C6:L33–37, “The choice of a particular video server to fill requests is based upon the proximity between the client and various potential video servers. The logic that makes this decision is represented by a content control system block 215 connected to network 203.”; C6:L43–45, “The client’s request should be filled by the video server most ‘proximate’ to client 213.”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to also modify the medium of Little/Nuttall to include the “instructions for determining the location of the client [...],” as taught by Auerbach. One would have been motivated to do so in order to calculate the proximity of the client to the video distribution server, which is input required by both of the “instructions for selecting [...],” (e.g., see Auerbach, C7:L31–33, “With the locations of the various network entities now in hand, the content control system must determine relevant proximities.”).

As per **claim 43**, the combination of Little/Nuttall/Auerbach teaches **A computer readable storage medium or media as in claim 42, wherein the determination of topological**

Control Number: 90/019,550  
 Art Unit: 3992

Page 266

**proximity to the client is performed using a breadth-first search to identify node servers that satisfy a criterion regarding topological proximity to the client** (Auerbach, C11:L9–16; note: the term “breadth” is being interpreted as “breadth”).

As per **claim 44**, the combination of Little and Nuttall teaches **A computer readable storage medium or media as in claim 37, further comprising: instructions for identifying a network site that will act as a node server for distribution of the specified content** (Little, p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”).

The combination of Little and Nuttall does not expressly teach **instructions for providing the specified content to the node server.**

Auerbach teaches **instructions for providing the specified content to the node server** (C6:L1–41, e.g., “a content control system initially receives a trigger event (103) such as a new title becoming available at a video library or client requests going unfilled,” “a content library 214 that stores various video titles which may be provided to one or more of the video servers. If a new video title becomes available on content library 214 and a particular video server determines that it will likely need that title to fill client request, that title may be loaded from content library 214 to the appropriate video server,” and “Note that content control system 215 may be distributed over multiple entities on the network and may reside, partially or completely, on a content library, a video server, or even a 40 client.”).

Control Number: 90/019,550  
Art Unit: 3992

Page 267

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the content control system of Little (i.e., the QDB, i.e., medium) to include “instructions for providing [...]” as taught by Auerbach. One would have been motivated to do so in order to “employ[...] anticipatory loading of content from a library to a server based upon the server’s proximity to a given client-base” (Auerbach, C2:L19–21) “in order to improve, and perhaps even to optimize, the delivery of content to client devices and end-users” (Auerbach, C2:L5–7).

As per **claim 45**, the combination of Little/Nuttall/Auerbach teaches **A computer readable storage medium or media as in claim 44, wherein the instructions for identifying a network site that will act as a node server for distribution of the specified content further comprise:**

**instructions for identifying the location of a prospective node server** (Auerbach, “first server” or “second server”) **that desires to act as a node server for distribution of the specified content** (Auerbach, C2:L64–C3:L1, “the sequence may include (i) determining a first loading proximity between a source of the content and the first server and (ii) determining a second loading proximity between a source of the content and the second server.”; Auerbach, C3:L14–17, “Preferably, at least one of the first and second proximities is determined by a combination of the following factors: bandwidth, number of hops, congestion, noise and loss on a network segment, and charges incurred to send.”; Auerbach, C11:L39–46, “Topology Discovery. There are techniques, often used in network management platforms, to determine network topology and population. Generally, topology discovery determines which nodes are connected to which other nodes by links. In other words, it simply determines the ‘topology’ of a

Control Number: 90/019,550  
 Art Unit: 3992

Page 268

network. Topology discovery techniques may employ combinations of SNMP queries, ICMP echo requests, ‘pings,’ ICMP subnet mask requests, and traceroutes.”; Auerbach, C7:L53–55, “Note that each ‘proximity’ used in this process may be generated according to the procedures described herein.”);

**instructions for identifying the location of one or more other existing node servers (Auerbach, “source of the content”) that can act as a node server for distribution of the specified content** (Auerbach, C2:L64–C3:L1, “the sequence may include (i) determining a first loading proximity between a source of the content and the first server and (ii) determining a second loading proximity between a source of the content and the second server.”; Auerbach, C3:L14–17, “Preferably, at least one of the first and second proximities is determined by a combination of the following factors: bandwidth, number of hops, congestion, noise and loss on a network segment, and charges incurred to send.”; Auerbach, C11:L39–46, “Topology Discovery. There are techniques, often used in network management platforms, to determine network topology and population. Generally, topology discovery determines which nodes are connected to which other nodes by links. In other words, it simply determines the ‘topology’ of a network. Topology discovery techniques may employ combinations of SNMP queries, ICMP echo requests, ‘pings,’ ICMP subnet mask requests, and traceroutes.”; Auerbach, C7:L53–55, “Note that each ‘proximity’ used in this process may be generated according to the procedures described herein.”); **and**

**instructions for determining the topological proximity of the prospective node server to the existing node servers** (Auerbach, C2:L64–C3:L1, “the sequence may include (i) determining a first loading proximity between a source of the content and the first server and (ii) determining a second loading proximity between a source of the content and the second server.”;

Control Number: 90/019,550

Page 269

Art Unit: 3992

see also Auerbach, C7:L18–62; Auerbach, C7:L53–55, “Note that each ‘proximity’ used in this process may be generated according to the procedures described herein.”),

**wherein the prospective node server is selected as a node server for distribution of the specified content if the prospective node server satisfies a criterion regarding topological proximity to the existing node servers**

(note: the “wherein” clause does not describe structure of the claimed “computer readable storage medium or media,” therefore, although citations to the prior art are provided below for compact prosecution purposes, the “wherein” clause is not given patentable weight;

Auerbach, C3:L1–4, “In this case, the first and second loading proximities are used together with the first and second proximities to determine which of the first and second servers should receive the content.”; see also C7:L18–62).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the content control system of Little (i.e., the QDB, i.e., medium) to include the two “instructions for identifying [...]” and the “instructions for determining [...],” as taught by Auerbach. One would have been motivated to do so to compare costs between using one prospective node server (VDB of Little) versus a second prospective node server, and to select and load content to the node server with a least cost based at least in-part on proximity to a source of the content, as taught by Auerbach at C7:L18–62.

As per **claim 50**, the combination of Little and Nuttall teaches **A computer readable storage medium or media as in claim 49, further comprising:**

**instructions for identifying a network site that will act as a node server for distribution of the specified content** (Little, p. 157, “A metadata server [...] called the query-

Control Number: 90/019,550  
 Art Unit: 3992

Page 270

database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”).

The combination of Little and Nuttall does not expressly teach **instructions for providing the specified content to the node server; and instructions for receiving at the node server the specified content provided by the core server.**

Auerbach teaches **instructions for providing the specified content to the node server; and instructions for receiving at the node server the specified content provided by the core server** (C6:L1–41, e.g., “a content control system initially receives a trigger event (103) such as a new title becoming available at a video library or client requests going unfilled,” “a content library 214 that stores various video titles which may be provided to one or more of the video servers. If a new video title becomes available on content library 214 and a particular video server determines that it will likely need that title to fill client request, that title may be loaded from content library 214 to the appropriate video server,” and “Note that content control system 215 may be distributed over multiple entities on the network and may reside, partially or completely, on a content library, a video server, or even a 40 client.”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the content control system (or media) of Little (i.e., the QDB, i.e., part of the media) to include “instructions for providing [...]” as taught by Auerbach, and to modify the media (or node server as part thereof) of Little (i.e., the VDBs) to include “instructions for receiving [...]” as also taught by Auerbach. One would have been motivated to do so in order to “employ[...] anticipatory loading of content from a library to a server based upon the server’s proximity to a given client-base” (Auerbach, C2:L19–21) “in order to improve,

Control Number: 90/019,550

Page 271

Art Unit: 3992

and perhaps even to optimize, the delivery of content to client devices and end-users” (Auerbach, C2:L5–7).

As per **claim 55**, Little discloses **A computer readable storage medium or media encoded with one or more computer programs including instructions** (“VVB System,” e.g., p. 157, “VVB system architecture is designed to support many video terminals, or clients, and video-databases, or servers, interconnected via a computer network (Fig. 5)”; p. 157, “[a] metadata server [...] called the query-database (QDB)”; p. 158, Figure 5, shows “query data base” on a “computer network”; and p. 158, Figure 6, shows a “Query DB Server” in conjunction with “Query Database”) **for effecting the provision of content over network** (p. 156, “a simple query interface that lets users specify their preferences to the system to retrieve the appropriate video”; p. 157, “video databases (VDBs) contain the video data (movies)”; fig. 5, “computer network”), **comprising:**

**instructions for receiving a request for content from a client**

(p. 149, “user queries are sent to a metadata server for processing”;

p. 158, “When the user wishes to view a video, a query is made first to the QDB for an interpretation of user browsing operations. The delivery of the video data to the user begins after the user has browsed the selections, issued a command to ‘play,’ and has been given permission to do so from the server.”;

pp. 158–159, “The query phase involves the querying of the QDB to get all information required by the client to obtain a selected movie or scene. The query mechanism is implemented

Control Number: 90/019,550

Page 272

Art Unit: 3992

using a remote procedure call<sup>[38]</sup> (RPC) between the client and the QDB (POSTGRES is the DBMS<sup>[39]</sup> used in the VVB implementation of the QDB).”; and

p. 163, Figure 9, the “postgres DBMS” is indicated as “COTS [(commercial off-the-shelf)] software”);

[...];

**instructions for identifying the location of a plurality of node servers within the network that have at least part of the requested content stored thereon** (p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”);

[...]; **[and]**

**instructions for communicating the identity of the candidate node server** (e.g., p. 157, one of “video-databases, or servers”; also “VDB” in citations below) **to the client to enable the client to request transmission of the requested content via the network from one or more of the candidate node servers**

(p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the

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<sup>38</sup> The term “remote procedure call” is understood as, “in programming, a call by one program to a second program on a remote system. The second program generally performs a task and returns the results of that task to the first program.” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 406.

<sup>39</sup> The term “DBMS” stands for “database management system,” which is understood as “A software interface between the database and the user. A database management system handles user requests for database actions and allows for control of security and data integrity requirements. *Acronym: DBMS [...]. Also called database manager. [...]*” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 129.

Control Number: 90/019,550  
 Art Unit: 3992

Page 273

availability of different resources in the system and acts as a *name-server* that maps movies to the video databases";

p. 159, "The QDB has the additional functionality of guiding the client to the VDB that contains the desired information. The QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client." and "The client requests the establishment of a connection with the VDB specified in the query process"; and

p. 160, Table 4 indicates that client makes a request to VDB using "database\_name" of VDB; because the QDB "guid[es] the client to the VDB that contains the desired information" (p. 159), and because the client uses "database\_name" in its request to the VDB (Table 4), a POSITA would understand that "the VDB specified in the query process" (p. 159) is specified by the QDB using the "database\_name," i.e., the identity of the VDB in the form of "database\_name" is provided by the QDB to the client) [...].

Little does not expressly disclose:

**instructions for determining the location of the client within the network;**

**instructions for selecting from the plurality of node servers one or more candidate node servers that are determined to be topologically proximate to the client; and**

**instructions for ascertaining which of the one or more of the candidate node servers transmitted requested content to the client,**

**wherein an owner of such node server is offered an incentive as compensation for transmission of requested content to the client.**

Control Number: 90/019,550  
Art Unit: 3992

Page 274

Auerbach is directed to proximity as an aid to caching and secondary serving of data.

Auerbach discloses orchestrating the propagation or positioning of content based upon “proximity” between various nodes on a network. (see C2:L10–12).

In particular, Auerbach teaches,

**instructions for determining the location of the client within the network** (Auerbach, C7:L18–23, “FIG. 2B presents a process flow diagram for a general procedure that may be employed to identify a particular server for [...] providing content to clients. Process 240 begins at 242 with the content control system receiving or otherwise identifying the location of one or more clients that will require the content.”); **and**

**instructions for selecting from the plurality of node servers one or more candidate node servers that are determined to be topologically proximate to the client** (Auerbach, C6:L33–37, “The choice of a particular video server to fill requests is based upon the proximity between the client and various potential video servers. The logic that makes this decision is represented by a content control system block 215 connected to network 203.”; C6:L43–45, “The client’s request should be filled by the video server most ‘proximate’ to client 213.”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the medium of Little to include the “instructions for selecting [...],” as taught by Auerbach. One would have been motivated to do so “in order to improve, and perhaps even to optimize, the delivery of content to client devices and end-users” (Auerbach, C2:L5–7).

Moreover, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to also modify the medium of Little to include the “instructions for determining the location of the client [...],” as taught by Auerbach. One would have been

Control Number: 90/019,550  
Art Unit: 3992

Page 275

motivated to do so in order to calculate the proximity of the client to the video distribution server, which is input required by the “means for selecting [...]” (e.g., see Auerbach, C7:L31–33, “With the locations of the various network entities now in hand, the content control system must determine relevant proximities.”).

Nuttall is directed to a method for computer network operation providing basis for usage fees. Nuttall discloses a system for controlling the distribution and use of digital content that includes a distribution and usage reporting mechanism for accurately calculating fees associated with such distribution and use (see C1:L56–59).

In particular, Nuttall teaches a **medium** (“reconciling node 118”) **comprising instructions for ascertaining which of the one or more of the candidate node servers transmitted requested content to the client.**<sup>40</sup>

Specifically, the enumerated citations below show that Nuttall teaches a medium (“reconciling node 118” shown in fig. 4) comprising an algorithm comprising after delivery of specified content from the node server to the client, auditing (“comparing” or “reconcil[ing]”) a message from the client and/or the node server indicating whether the content was delivered from the node server (“report 336,” received on line 158 of fig. 1; or “[r]eports 326 and 328,” received on line 152 of fig. 1).

(1) C4:L29–31, “a reconciliation of reports from a variety of network nodes that are reported at separate times during the data transfer process”;

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<sup>40</sup> As noted above, the corresponding structure for this element includes an algorithm comprising *after delivery of specified content from the node server to the client, auditing a message from the client and/or the node server indicating whether the content was delivered from the node server.*

Control Number: 90/019,550  
Art Unit: 3992

Page 276

(2) C4:L47–52, “By comparing reports received on lines 152, 154, 156, and possibly 158 (from content providing node 108), reconciling node 118 distinguishes valid complete data transfers from incomplete transfers and from events that could indicate intentional interference with the integrity of network 100”; and

(3) C9:L47–54, “Reports 326 and 328 respectively provide the start and summary information from content requesting node 110. Data structures 1700 and 1800 correspond to a single record of the start report and summary report respectively when instantiated in memory of reconciling node 118. Finally, report 336 describing what content files were sent and when sent may be generated by content providing node 108.”

Nuttall further teaches **wherein an owner of such node server is offered an incentive as compensation for transmission of requested content to the client**

(note: this “wherein” clause does not describe structure of the claimed “medium,”<sup>41</sup> therefore, although citations to the prior art are provided below for compact prosecution purposes, the “wherein” clause is not given patentable weight;

C4:L25–27, “making payment for distribution services to at least the operator of content providing node 108”;

C4:L52–58, “For each valid complete transfer, reconciling node 118 allocates revenues generated from the debits of users’ accounts [and] initiates funds transfers with messages to banking node 114 on line 160 for payments of, for example, distribution fees and royalties”; and

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<sup>41</sup> See, e.g., 376 Patent at C22:L56–61, “For example, at the beginning of operation of a system according to the invention in which **a core server owner offers incentive(s)** for distribution of content on behalf of the core server owner, the **core server owner may offer** relatively generous **incentive(s)** in order to induce network site owners to agree to allow their network sites to be used as node servers.” (Emphasis added).

Control Number: 90/019,550  
Art Unit: 3992

Page 277

C10:L38–40, “Allocation of earnings by process 408 follows the identification of such a reconciliation result.”).

Little further discloses “[t]he advantage of [its] system architecture is its scalability” and “[i]t is impractical to expect a single site to store all data and provide interactive services to thousands of users.” (p. 167).

In view of the above findings from Little and Nuttall, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the system of Little/Auerbach to employ third party distributors (as VDBs) and to provide compensation for transmission of content to each distributor, as taught by Nuttall, in order to incentivize enough participation to achieve the “scalability” and “thousands of users” desired by Little (*id.*).

Moreover, when employing third party distributors (as VDBs), it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to include the “instructions for ascertaining [...],” as taught by Nuttall. One would have been motivated to do so in order “distinguish[...] valid complete data transfers from incomplete transfers” (Nuttall, *id.*) and thereby provide a mechanism to determine transfers that initiate compensation due for distribution services, as also taught by Nuttall (e.g., see C4:L52–58, “For each valid complete transfer, reconciling node 118 allocates revenues generated from the debits of users’ accounts [and] initiates funds transfers with messages to banking node 114 on line 160 for payments of, for example, distribution fees and royalties”).

Furthermore, as noted above, Little’s system (“VVB system” at p. 157) is made up of clients that request videos (“many video-terminals, or clients” at p. 157), video servers (VDBs) that provide videos (“video-databases, or servers” and “video databases (VDBs) contain the

Control Number: 90/019,550  
 Art Unit: 3992

Page 278

video data (movies),” at p. 157), and a central server, metadata sever (“QDB” at p. 157), that provides the clients with information about the videos (“information about the availability of videos and their locations within the VOD system” at p. 157).

Moreover, Little’s QDB (“medium”) is the hub of the system (“the QDB is located at a single site known to all network stations” at pp. 157–158).

Therefore, it would also have been obvious to one of ordinary skill in the art, at the time the invention was made, to locate the “instructions for ascertaining [...],” as taught by Nuttall, in the QDB (medium) of Little/Auerbach. One would have been motivated to do so because the QDB is the hub of Little’s system, i.e., the single site known to all network stations, and therefore would be understood by a POSITA as a logical choice to include a “instructions for ascertaining [...]” that collects reports from various network stations across a network, as taught by Nuttall, and this choice produces predictable results.

As per **claim 56**, Little discloses **A computer readable storage medium or media encoded with one or more computer programs including instructions** (“VVB System,” e.g., p. 157, “VVB system architecture is designed to support many video terminals, or clients, and video-databases, or servers, interconnected via a computer network (Fig. 5)”; p. 157, “[a] metadata server [...] called the query-database (QDB)”; p. 158, Figure 5, shows “query data base” on a “computer network”; and p. 158, Figure 6, shows a “Query DB Server” in conjunction with “Query Database”) **for effecting the provision of content over a network** (p. 156, “a simple query interface that lets users specify their preferences to the system to retrieve the appropriate video”; p. 157, “video databases (VDBs) contain the video data (movies)”; fig. 5, “computer network”), **comprising:**

Control Number: 90/019,550  
Art Unit: 3992

Page 279

**instructions for identifying which of a plurality of sets of content or parts of the plurality of sets of content are stored by each of a plurality of node servers that are part of the network** (p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”),

**wherein at least one of the plurality of sets of content or parts of the plurality of sets of content is stored on redundant node servers** (p. 159, “[i]f the connection cannot be supported, the server sends back a ‘connection refused’ message and the client must repeat the query to the QDB to find an alternate source of data.”);

**instructions for receiving a request from a client that is part of the network for transmission of a set of content to the client**

(p. 149, “user queries are sent to a metadata server for processing”;

p. 158, “When the user wishes to view a video, a query is made first to the QDB for an interpretation of user browsing operations. The delivery of the video data to the user begins after the user has browsed the selections, issued a command to ‘play,’ and has been given permission to do so from the server.”;

pp. 158–159, “The query phase involves the querying of the QDB to get all information required by the client to obtain a selected movie or scene. The query mechanism is implemented

Control Number: 90/019,550

Page 280

Art Unit: 3992

using a remote procedure call<sup>[42]</sup> (RPC) between the client and the QDB (POSTGRES is the DBMS<sup>[43]</sup> used in the VVB implementation of the QDB).”; and

p. 163, Figure 9, the “postgres DBMS” is indicated as “COTS [(commercial off-the-shelf)] software”),

**wherein at least part of the requested set of content is stored on redundant node servers** (p. 159, “[i]f the connection cannot be supported, the server sends back a ‘connection refused’ message and the client must repeat the query to the QDB to find an alternate source of data.”);

**[...]; [and]**

**instructions for communicating the identity of the candidate node servers** (e.g., p. 157, one of “video-databases, or servers”; also “VDB” in citations below) **to the client to enable the client to request transmission of the requested content via the network from one or more of the candidate node servers**

(p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”;

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<sup>42</sup> The term “remote procedure call” is understood as, “in programming, a call by one program to a second program on a remote system. The second program generally performs a task and returns the results of that task to the first program.” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 406.

<sup>43</sup> The term “DBMS” stands for “database management system,” which is understood as “A software interface between the database and the user. A database management system handles user requests for database actions and allows for control of security and data integrity requirements. *Acronym: DBMS [...]. Also called database manager. [...]*” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 129.

Control Number: 90/019,550  
Art Unit: 3992

Page 281

p. 159, “The QDB has the additional functionality of guiding the client to the VDB that contains the desired information. The QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client.” and “The client requests the establishment of a connection with the VDB specified in the query process”; and

p. 160, Table 4 indicates that client makes a request to VDB using “database\_name” of VDB; because the QDB “guid[es] the client to the VDB that contains the desired information” (p. 159), and because the client uses “database\_name” in its request to the VDB (Table 4), a POSITA would understand that “the VDB specified in the query process” (p. 159) is specified by the QDB using the “database\_name,” i.e., the identity of the VDB in the form of “database\_name” is provided by the QDB to the client) [...].

Little does not expressly disclose:

**instructions for selecting from the plurality of node servers one or more candidate node servers that have stored thereon at least part of the requested set of content; and**

**instructions for ascertaining which of the one or more of the candidate node servers transmitted requested content to the client,**

**wherein an owner of such node server is offered an incentive as compensation on for transmission of requested content to the client.**

Auerbach is directed to proximity as an aid to caching and secondary serving of data. Auerbach discloses orchestrating the propagation or positioning of content based upon “proximity” between various nodes on a network. (see C2:L10–12).

In particular, Auerbach teaches,

Control Number: 90/019,550  
Art Unit: 3992

Page 282

**instructions for selecting from the plurality of node servers one or more candidate node servers that have stored thereon at least part of the requested set of content**

(Auerbach, C6:L33–37, “The choice of a particular video server to fill requests is based upon the proximity between the client and various potential video servers. The logic that makes this decision is represented by a content control system block 215 connected to network 203.”; C6:L43–45, “The client’s request should be filled by the video server most ‘proximate’ to client 213.”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the medium of Little to include the “instructions for selecting [...]” as taught by Auerbach. One would have been motivated to do so “in order to improve, and perhaps even to optimize, the delivery of content to client devices and end-users” (Auerbach, C2:L5–7).

Nuttall is directed to a method for computer network operation providing basis for usage fees. Nuttall discloses a system for controlling the distribution and use of digital content that includes a distribution and usage reporting mechanism for accurately calculating fees associated with such distribution and use (see C1:L56–59).

In particular, Nuttall teaches a **medium** (“reconciling node 118”) **comprising instructions for ascertaining which of the one or more of the candidate node servers transmitted requested content to the client.**<sup>44</sup>

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<sup>44</sup> As noted above, the corresponding structure for this element includes an algorithm comprising *after delivery of specified content from the node server to the client, auditing a message from the client and/or the node server indicating whether the content was delivered from the node server.*

Control Number: 90/019,550  
 Art Unit: 3992

Page 283

Specifically, the enumerated citations below show that Nuttall teaches a medium (“reconciling node 118” shown in fig. 4) comprising an algorithm comprising after delivery of specified content from the node server to the client, auditing (“comparing” or “reconcil[ing]”) a message from the client and/or the node server indicating whether the content was delivered from the node server (“report 336,” received on line 158 of fig. 1; or “[r]eports 326 and 328,” received on line 152 of fig. 1).

(1) C4:L29–31, “a reconciliation of reports from a variety of network nodes that are reported at separate times during the data transfer process”;

(2) C4:L47–52, “By comparing reports received on lines 152, 154, 156, and possibly 158 (from content providing node 108), reconciling node 118 distinguishes valid complete data transfers from incomplete transfers and from events that could indicate intentional interference with the integrity of network 100”; and

(3) C9:L47–54, “Reports 326 and 328 respectively provide the start and summary information from content requesting node 110. Data structures 1700 and 1800 correspond to a single record of the start report and summary report respectively when instantiated in memory of reconciling node 118. Finally, report 336 describing what content files were sent and when sent may be generated by content providing node 108.”

Nuttall further teaches **wherein an owner of such node server is offered an incentive as compensation for transmission of requested content to the client**

Control Number: 90/019,550  
Art Unit: 3992

Page 284

(note: this “wherein” clause does not describe structure of the claimed “medium;”<sup>45</sup> therefore, although citations to the prior art are provided below for compact prosecution purposes, the “wherein” clause is not given patentable weight;

C4:L25–27, “making payment for distribution services to at least the operator of content providing node 108”;

C4:L52–58, “For each valid complete transfer, reconciling node 118 allocates revenues generated from the debits of users’ accounts [and] initiates funds transfers with messages to banking node 114 on line 160 for payments of, for example, distribution fees and royalties”; and

C10:L38–40, “Allocation of earnings by process 408 follows the identification of such a reconciliation result.”).

Little further discloses “[t]he advantage of [its] system architecture is its scalability” and “[i]t is impractical to expect a single site to store all data and provide interactive services to thousands of users.” (p. 167).

In view of the above findings from Little and Nuttall, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the system of Little/Auerbach to employ third party distributors (as VDBs) and to provide compensation for transmission of content to each distributor, as taught by Nuttall, in order to incentivize enough participation to achieve the “scalability” and “thousands of users” desired by Little (*id.*).

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<sup>45</sup> See, e.g., 376 Patent at C22:L56–61, “For example, at the beginning of operation of a system according to the invention in which **a core server owner offers incentive(s)** for distribution of content on behalf of the core server owner, the **core server owner may offer** relatively generous **incentive(s)** in order to induce network site owners to agree to allow their network sites to be used as node servers.” (Emphasis added).

Control Number: 90/019,550  
Art Unit: 3992

Page 285

Moreover, when employing third party distributors (as VDBs), it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to include the “instructions for ascertaining [...]” as taught by Nuttall. One would have been motivated to do so in order “distinguish[...] valid complete data transfers from incomplete transfers” (Nuttall, *id.*) and thereby provide a mechanism to determine transfers that initiate compensation due for distribution services, as also taught by Nuttall (e.g., see C4:L52–58, “For each valid complete transfer, reconciling node 118 allocates revenues generated from the debits of users’ accounts [and] initiates funds transfers with messages to banking node 114 on line 160 for payments of, for example, distribution fees and royalties”).

Furthermore, as noted above, Little’s system (“VVB system” at p. 157) is made up of clients that request videos (“many video-terminals, or clients” at p. 157), video servers (VDBs) that provide videos (“video-databases, or servers” and “video databases (VDBs) contain the video data (movies),” at p. 157), and a central server, metadata sever (“QDB” at p. 157), that provides the clients with information about the videos (“information about the availability of videos and their locations within the VOD system” at p. 157).

Moreover, Little’s QDB (“medium”) is the hub of the system (“the QDB is located at a single site known to all network stations” at pp. 157–158).

Therefore, it would also have been obvious to one of ordinary skill in the art, at the time the invention was made, to locate the “instructions for ascertaining [...]” as taught by Nuttall, in the QDB (medium) of Little/Auerbach. One would have been motivated to do so because the QDB is the hub of Little’s system, i.e., the single site known to all network stations, and therefore would be understood by a POSITA as a logical choice to include a “instructions for

Control Number: 90/019,550

Page 286

Art Unit: 3992

ascertaining [...]” that collects reports from various network stations across a network, as taught by Nuttall, and this choice produces predictable results.

As per **claim 57**, Little discloses **A method for effecting the provision of content over a network** (p. 156, “a simple query interface that lets users specify their preferences to the system to retrieve the appropriate video”; p. 157, “video databases (VDBs) contain the video data (movies)”; fig. 5, “computer network”), **comprising the steps of:**

**identifying at a core server** (p. 157, “[a] metadata server [...] called the query-database (QDB)”; p. 158, Figure 5, shows “query data base” on a “computer network”; and p. 158, Figure 6, shows a “Query DB Server” in conjunction with “Query Database”) **a network site that will act as a node server for distribution of specified content** (p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”);

[...];

**receiving at the core server a request from a client for the specified content**

(p. 149, “user queries are sent to a metadata server for processing”;

p. 158, “When the user wishes to view a video, a query is made first to the QDB for an interpretation of user browsing operations. The delivery of the video data to the user begins after the user has browsed the selections, issued a command to ‘play,’ and has been given permission to do so from the server.”;

pp. 158–159, “The query phase involves the querying of the QDB to get all information required by the client to obtain a selected movie or scene. The query mechanism is implemented

using a remote procedure call<sup>[46]</sup> (RPC) between the client and the QDB (POSTGRES is the DBMS<sup>[47]</sup> used in the VVB implementation of the QDB).”); [and]

**communicating from the core server the identity of the node server** (e.g., p. 157, one of “video-databases, or servers”; also “VDB” in citations below) **to the client to enable the client to request transmission of the specified content from the node server**

(p. 159, “The QDB has the additional functionality of guiding the client to the VDB that contains the desired information. The QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client.” and “The client requests the establishment of a connection with the VDB specified in the query process”;

p. 160, Table 4, “Typical client actions during connection setup,” and row 1, which states “query\_video\_database(database\_name, video\_name),” which is described as “Query the VDB for the specified video”; and

p. 160, Table 4 indicates that client makes a request to VDB using “database\_name” of VDB; because the QDB “guid[es] the client to the VDB that contains the desired information” (p. 159), and because the client uses “database\_name” in its request to the VDB (Table 4), a POSITA would understand that “the VDB specified in the query process” (p. 159) is specified by the QDB using the “database\_name,” i.e., the identity of the VDB in the form of “database\_name” is provided by the QDB to the client) [...].

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<sup>46</sup> The term “remote procedure call” is understood as, “in programming, a call by one program to a second program on a remote system. The second program generally performs a task and returns the results of that task to the first program.” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 406.

<sup>47</sup> The term “DBMS” stands for “database management system,” which is understood as “A software interface between the database and the user. A database management system handles user requests for database actions and allows for control of security and data integrity requirements. *Acronym: DBMS [...]. Also called database manager. [...]*” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 129.

Control Number: 90/019,550  
Art Unit: 3992

Page 288

Little does not expressly disclose,  
**providing from the core server the specified content to the node server; and**  
**ascertaining at the core server that the node server transmitted the specified content**  
**to the client, wherein an owner of the node server is offered an incentive as compensation**  
**for transmission of the specified content to the client.**

Auerbach is directed to proximity as an aid to caching and secondary serving of data.  
Auerbach discloses orchestrating the propagation or positioning of content based upon  
“proximity” between various nodes on a network. (see C2:L10–12).

In particular, Auerbach teaches **providing from [a] core server [...] specified content**  
**to [a] node server** (C6:L1–41, e.g., “a content control system initially receives a trigger event  
(103) such as a new title becoming available at a video library or client requests going unfilled,”  
“a content library 214 that stores various video titles which may be provided to one or more of  
the video servers. If a new video title becomes available on content library 214 and a particular  
video server determines that it will likely need that title to fill client request, that title may be  
loaded from content library 214 to the appropriate video server,” and “Note that content control  
system 215 may be distributed over multiple entities on the network and may reside, partially or  
completely, on a content library, a video server, or even a 40 client.”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the  
invention was made, to modify the method of Little to include a step of providing the specified  
content from the QDB to the VDB, as taught by Auerbach. One would have been motivated to  
do so in order to “employ[...] anticipatory loading of content from a library to a server based

Control Number: 90/019,550  
 Art Unit: 3992

Page 289

upon the server's proximity to a given client-base" (Auerbach, C2:L19–21) "in order to improve, and perhaps even to optimize, the delivery of content to client devices and end-users" (Auerbach, C2:L5–7).

Nuttall is directed to a method for computer network operation providing basis for usage fees. Nuttall discloses a system for controlling the distribution and use of digital content that includes a distribution and usage reporting mechanism for accurately calculating fees associated with such distribution and use (see C1:L56–59).

In particular, Nuttall teaches **ascertaining at [a] core server that the node server transmitted the specified content to the client.**

Specifically, the enumerated citations below show that Nuttall teaches a core server ("reconciling node 118" shown in fig. 4) ascertaining that a node server transmitted specified content to a client.

(1) C4:L29–31, "a reconciliation of reports from a variety of network nodes that are reported at separate times during the data transfer process";

(2) C4:L47–52, "By comparing reports received on lines 152, 154, 156, and possibly 158 (from content providing node 108), reconciling node 118 distinguishes valid complete data transfers from incomplete transfers and from events that could indicate intentional interference with the integrity of network 100"; and

(3) C9:L47–54, "Reports 326 and 328 respectively provide the start and summary information from content requesting node 110. Data structures 1700 and 1800 correspond to a single record of the start report and summary report respectively when instantiated in memory of

Control Number: 90/019,550  
Art Unit: 3992

Page 290

reconciling node 118. Finally, report 336 describing what content files were sent and when sent may be generated by content providing node 108.”

Nuttall further teaches **wherein an owner of the node server is offered an incentive as compensation for transmission of the specified content to the client**

(note: this “wherein” clause does not set forth an additional method step; therefore, although citations to the prior art are provided below for compact prosecution purposes, the “wherein” clause is not given patentable weight;

C4:L25–27, “making payment for distribution services to at least the operator of content providing node 108”;

C4:L52–58, “For each valid complete transfer, reconciling node 118 allocates revenues generated from the debits of users’ accounts [and] initiates funds transfers with messages to banking node 114 on line 160 for payments of, for example, distribution fees and royalties”; and

C10:L38–40, “Allocation of earnings by process 408 follows the identification of such a reconciliation result.”).

Little further discloses “[t]he advantage of [its] system architecture is its scalability” and “[i]t is impractical to expect a single site to store all data and provide interactive services to thousands of users.” (p. 167).

In view of the above findings from Little and Nuttall, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the method of Little to employ third party distributors (as VDBs) and to provide compensation for transmission of content to each distributor, as taught by Nuttall, in order to incentivize enough participation to achieve the “scalability” and “thousands of users” desired by Little (*id.*).

Control Number: 90/019,550  
Art Unit: 3992

Page 291

Moreover, when employing third party distributors (as VDBs), it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to include a step of “ascertaining [...]” as taught by Nuttall. One would have been motivated to do so in order “distinguish[...] valid complete data transfers from incomplete transfers” (Nuttall, *id.*) and thereby provide a mechanism to determine transfers that initiate compensation due for distribution services, as also taught by Nuttall (e.g., see C4:L52–58, “For each valid complete transfer, reconciling node 118 allocates revenues generated from the debits of users’ accounts [and] initiates funds transfers with messages to banking node 114 on line 160 for payments of, for example, distribution fees and royalties”).

Furthermore, as noted above, Little’s system (“VVB system” at p. 157) is made up of clients that request videos (“many video-terminals, or clients” at p. 157), video servers (VDBs) that provide videos (“video-databases, or servers” and “video databases (VDBs) contain the video data (movies),” at p. 157), and a central server, metadata sever (“QDB” at p. 157), that provides the clients with information about the videos (“information about the availability of videos and their locations within the VOD system” at p. 157).

Moreover, Little’s QDB (“core server”) is the hub of the system (“the QDB is located at a single site known to all network stations” at pp. 157–158).

Therefore, it would also have been obvious to one of ordinary skill in the art, at the time the invention was made, to locate the step of “ascertaining [...]” as taught by Nuttall, at the QDB (core server) of Little. One would have been motivated to do so because the QDB is the hub of Little’s system, i.e., the single site known to all network stations, and therefore would be understood by a POSITA as a logical choice to perform a step of “ascertaining [...]” that

Control Number: 90/019,550

Page 292

Art Unit: 3992

involves collecting reports from various network stations across a network, as taught by Nuttall, and this choice produces predictable results.

As per **claim 58**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 57, wherein the incentive varies in accordance with the bandwidth and/or latency performance of the node server in transmitting the specified content to the client** (as noted above, the limitation of claim 57, “wherein an owner of the node server is offered an incentive as compensation for transmission of the specified content to the client,” is not given patentable weight; therefore claim 58’s “wherein” clause further describing the incentive is likewise not given patentable weight).

As per **claim 59**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 58, wherein the incentive varies in accordance with the bandwidth and/or latency performance of the node server relative to the bandwidth and/or latency characteristics of one or more other node servers that can provide the specified content to the client** (as noted above, the limitation of claim 57, “wherein an owner of the node server is offered an incentive as compensation for transmission of the specified content to the client,” is not given patentable weight; therefore claim 59’s “wherein” clause further describing the incentive is likewise not given patentable weight).

As per **claim 60**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 57, wherein the incentive varies in accordance with the number and/or topological proximity of one or more other node servers that can provide the specified content to the**

Control Number: 90/019,550  
Art Unit: 3992

Page 293

**client** (as noted above, the limitation of claim 57, “wherein an owner of the node server is offered an incentive as compensation for transmission of the specified content to the client,” is not given patentable weight; therefore claim 60’s “wherein” clause further describing the incentive is likewise not given patentable weight).

As per **claim 61**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 57, wherein the incentive varies in accordance with the time of day at which the node server transmits the specified content to the client** (as noted above, the limitation of claim 57, “wherein an owner of the node server is offered an incentive as compensation for transmission of the specified content to the client,” is not given patentable weight; therefore claim 61’s “wherein” clause further describing the incentive is likewise not given patentable weight).

As per **claim 62**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 57, wherein the step of ascertaining at the core server that the node server transmitted the specified content to the client comprises the step of obtaining at the core server information regarding the characteristics of the transmission of the content**

(Nuttall, C4:L47–52, “By comparing reports received on lines 152, 154, 156, and possibly 158 (from content providing node 108), reconciling node 118 distinguishes valid complete data transfers from incomplete transfers and from events that could indicate intentional interference with the integrity of network 100”;

Nuttall, C9:L47–54, “Reports 326 and 328 respectively provide the start and summary information from content requesting node 110. Data structures 1700 and 1800 correspond to a single record of the start report and summary report respectively when instantiated in memory of

Control Number: 90/019,550  
 Art Unit: 3992

Page 294

reconciling node 118. Finally, report 336 describing what content files were sent and when sent may be generated by content providing node 108.”;

Nuttall, figs. 17–18).

As per **claim 63**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 62, wherein the step of obtaining information at the core server regarding the characteristics of the transmission of the content comprises the step of obtaining information at the core server regarding when the content was delivered**

(Nuttall, C4:L47–52, “By comparing reports received on lines 152, 154, 156, and possibly 158 (from content providing node 108), reconciling node 118 distinguishes valid complete data transfers from incomplete transfers and from events that could indicate intentional interference with the integrity of network 100”;

Nuttall, C9:L47–54, “Reports 326 and 328 respectively provide the start and summary information from content requesting node 110. Data structures 1700 and 1800 correspond to a single record of the start report and summary report respectively when instantiated in memory of reconciling node 118. Finally, report 336 describing what content files were sent and when sent may be generated by content providing node 108.”;

Nuttall, figs. 17–18, e.g., “start.report.date.time”).

As per **claim 65**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 57, further comprising the steps of:**

**identifying at the core server a plurality of node servers within the network that can act as a node server for distribution of the specified content** (Little, p. 157, “A metadata

Control Number: 90/019,550

Page 295

Art Unit: 3992

server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”);

**selecting by the core server from the plurality of node servers one or more candidate node servers** (Little, p. 159, “The QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client.”; **and**

**communicating from the core server the identity of the candidate node servers to the client to enable the client to request transmission of the specified content via the network from one of the candidate node servers**

(Little, p. 159, “The QDB has the additional functionality of guiding the client to the VDB that contains the desired information. The QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client.” and “The client requests the establishment of a connection with the VDB specified in the query process”; and

Little, p. 160, Table 4 indicates that client makes a request to VDB using “database\_name” of VDB; because the QDB “guid[es] the client to the VDB that contains the desired information” (p. 159), and because the client uses “database\_name” in its request to the VDB (Table 4), a POSITA would understand that “the VDB specified in the query process” (p. 159) is specified by the QDB using the “database\_name,” i.e., the identity of the VDB in the form of “database\_name” is provided by the QDB to the client).

As per **claim 66**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 65, further comprising the steps of:**

Control Number: 90/019,550  
Art Unit: 3992

Page 296

**determining by the core server the location of the client within the network**

(Auerbach, C7:L18–23, “FIG. 2B presents a process flow diagram for a general procedure that may be employed to identify a particular server for [...] providing content to clients. Process 240 begins at 242 with the content control system receiving or otherwise identifying the location of one or more clients that will require the content.”);

**identifying at the core server the locations of the plurality of node servers that can act as a node server for distribution of the specified content**

(Little, p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”;

See also Auerbach, C7:L27–30, “Next, at 244, the content control system receives or otherwise determines the locations of two or more servers that can potentially fill the needs of the clients referred to at 242.”); **and**

**wherein the step of selecting by the core server one or more candidate node servers comprises the step of selecting by the core server from the plurality of node servers one or more candidate node servers that are determined to be topologically proximate to the client**

(Auerbach, C6:L33–37, “The choice of a particular video server to fill requests is based upon the proximity between the client and various potential video servers. The logic that makes this decision is represented by a content control system block 215 connected to network 203.”; C6:L43–45, “The client’s request should be filled by the video server most ‘proximate’ to client 213.”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to also modify the method Little/Nuttall to include the steps of “determining the location of the client [...]” as taught by Auerbach. One would have been motivated to do so in order to calculate the proximity of the client to the video distribution server, which is input required by both of the “means for selecting [...]” (e.g., see Auerbach, C7:L31–33, “With the locations of the various network entities now in hand, the content control system must determine relevant proximities.”).

As per **claim 67**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 66, wherein the determination of topological proximity to the client is performed using a breadth-first search to identify node servers that satisfy a criterion regarding topological proximity to the client** (Auerbach, C11:L9–16).

As per **claim 68**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 57, wherein the step of identifying a network site that will act as a node server for distribution of the specified content further comprises the steps of:**

**identifying at the core server the location of a prospective node server** (Auerbach, “first server” or “second server”) **that desires to act as a node server for distribution of the specified content** (Auerbach, C2:L64–C3:L1, “the sequence may include (i) determining a first loading proximity between a source of the content and the first server and (ii) determining a second loading proximity between a source of the content and the second server.”; Auerbach, C3:L14–17, “Preferably, at least one of the first and second proximities is determined by a combination of the following factors: bandwidth, number of hops, congestion, noise and loss on

a network segment, and charges incurred to send.”; Auerbach, C11:L39–46, “Topology Discovery. There are techniques, often used in network management platforms, to determine network topology and population. Generally, topology discovery determines which nodes are connected to which other nodes by links. In other words, it simply determines the ‘topology’ of a network. Topology discovery techniques may employ combinations of SNMP queries, ICMP echo requests, ‘pings,’ ICMP subnet mask requests, and traceroutes.”; Auerbach, C7:L53–55, “Note that each ‘proximity’ used in this process may be generated according to the procedures described herein.”);

**identifying at the core server the location of one or more other existing node servers** (Auerbach, “source of the content”) **that can act as a node server for distribution of the specified content** (Auerbach, C2:L64–C3:L1, “the sequence may include (i) determining a first loading proximity between a source of the content and the first server and (ii) determining a second loading proximity between a source of the content and the second server.”; Auerbach, C3:L14–17, “Preferably, at least one of the first and second proximities is determined by a combination of the following factors: bandwidth, number of hops, congestion, noise and loss on a network segment, and charges incurred to send.”; Auerbach, C11:L39–46, “Topology Discovery. There are techniques, often used in network management platforms, to determine network topology and population. Generally, topology discovery determines which nodes are connected to which other nodes by links. In other words, it simply determines the ‘topology’ of a network. Topology discovery techniques may employ combinations of SNMP queries, ICMP echo requests, ‘pings,’ ICMP subnet mask requests, and traceroutes.”; Auerbach, C7:L53–55, “Note that each ‘proximity’ used in this process may be generated according to the procedures described herein.”);

Control Number: 90/019,550  
Art Unit: 3992

Page 299

**determining by the core server the topological proximity of the prospective node server to the existing node servers** (Auerbach, C2:L64–C3:L1, “the sequence may include (i) determining a first loading proximity between a source of the content and the first server and (ii) determining a second loading proximity between a source of the content and the second server.”; see also Auerbach, C7:L18–62; Auerbach, C7:L53–55, “Note that each ‘proximity’ used in this process may be generated according to the procedures described herein.”),

**wherein the prospective node server is selected as a node server for distribution of the specified content if the prospective node server satisfies a criterion regarding topological proximity to the existing node servers**

(note: the “wherein” clause does not positively recite an additional method step; therefore, although citations to the prior art are provided below for compact prosecution purposes, the “wherein” clause is not given patentable weight;

Auerbach, C3:L1–4, “In this case, the first and second loading proximities are used together with the first and second proximities to determine which of the first and second servers should receive the content.”; see also C7:L18–62).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the method of Little to include performing the two steps of “identifying [...]” and the step of “determining [...],” as taught by Auerbach. One would have been motivated to do so to compare costs between using one prospective node server (VDB of Little) versus a second prospective node server, and to select and load content to the node server with a least cost based at least in-part on proximity to a source of the content, as taught by Auerbach at C7:L18–62.

Control Number: 90/019,550  
Art Unit: 3992

Page 300

As per **claim 70**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 57, further comprising the steps of: storing at the core server data identifying available content that can be obtained by a client** (Little, fig. 5, QDB is on a computer network and is therefore a computer or general purpose computer; see also Little, p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”); **and providing from the core server an identification of available content to the client** (Little, p. 156, “the *virtual shelf screen* (Fig. 11) is a virtual display of the available movie cassettes and modeled on a video rental store”; Little, fig. 6, “Virtual Video Browser (VVB) Interface”; Little, fig. 11).

As per **claim 71**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 57, further comprising the step of storing at the core server data identifying the location of the node server** (Little, fig. 5, QDB is on a computer network and is therefore a computer or general purpose computer; see also Little, p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”).

As per **claim 72**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 57, wherein the content comprises visual content including moving images** (Little, p. 157, “video databases (VDBs) contain the video data (movies)”).

As per **claim 73**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 57, wherein the network is a computer network** (Little, fig. 5, “computer network”).

As per **claim 74**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 73, wherein the network is the Internet** (Little, p. 160, “In the VVB, the delivery of data between the client and the server is facilitated by a UDP connection. The choice of UDP was due to the need for supporting data delivery in real-time. Even though TCP is a more reliable protocol, it introduces additional delays due to retransmission which are not acceptable for real-time video communication. Furthermore, video data are tolerant to losses and we exploit this characteristic in our design. Flow control is facilitated by an out-of-band feedback circuit over a TCP connection.”; Little, p. 167, “The VVB is currently in use on a testbed of Unix workstations interconnected via Ethernet. The VVB interface has also been reimplemented to operate on the World Wide Web (WWW) using a forms-based interface.”).

As per **claim 77**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 57, further comprising the steps of:**

**storing at the node server the specified content** (Little, p. 157, “video databases (VDBs) contain the video data (movies)”; Little, fig. 5, video database is on a computer network, and therefore is a computer or general purpose computer);

**receiving at the node server a request to transmit the specified content to the client** (Little, p. 159, “During connection setup, the client checks with the VDB to see if it can support a new connection.” and “The client requests the establishment of a connection with the VDB specified in the query process. In the VVB, the delivery of video data to the client occurs over a

Control Number: 90/019,550  
Art Unit: 3992

Page 302

network-connection that lasts for the lifetime of the session.”; Little, Table 4, “Query the VDB for the specified video”); **and**

**transmitting from the node server the specified content to the client** (Little, p. 159, “The client requests the establishment of a connection with the VDB specified in the query process. In the VVB, the delivery of video data to the client occurs over a network-connection that lasts for the lifetime of the session.”).

As per **claim 78**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 77, further comprising the step of receiving at the node server the specified content from the core server** (Auerbach, C6:L1–41, e.g., “a content control system initially receives a trigger event (103) such as a new title becoming available at a video library or client requests going unfilled,” “a content library 214 that stores various video titles which may be provided to one or more of the video servers. If a new video title becomes available on content library 214 and a particular video server determines that it will likely need that title to fill client request, that title may be loaded from content library 214 to the appropriate video server,” and “Note that content control system 215 may be distributed over multiple entities on the network and may reside, partially or completely, on a content library, a video server, or even a 40 client.”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the method of Little to include the node server of Little (i.e., the VDBs) performing a step of “receiving [...]” as also taught by Auerbach. One would have been motivated to do so in order to “employ[...] anticipatory loading of content from a library to a server based upon the server’s proximity to a given client-base” (Auerbach, C2:L19–21) “in

Control Number: 90/019,550  
Art Unit: 3992

Page 303

order to improve, and perhaps even to optimize, the delivery of content to client devices and end-users” (Auerbach, C2:L5–7).

As per **claim 79**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 78, further comprising the steps of:**

**transmitting from a client the request for the specified content to the core server**

(Little, p. 149, “user queries are sent to a metadata server for processing”;

Little, p. 158, “When the user wishes to view a video, a query is made first to the QDB for an interpretation of user browsing operations. The delivery of the video data to the user begins after the user has browsed the selections, issued a command to ‘play,’ and has been given permission to do so from the server.”;

Little, pp. 158–159, “The query phase involves the querying of the QDB to get all information required by the client to obtain a selected movie or scene. The query mechanism is implemented using a remote procedure call<sup>[48]</sup> (RPC) between the client and the QDB (POSTGRES is the DBMS<sup>[49]</sup> used in the VVB implementation of the QDB).”);

**receiving at the client the identity of the node server from the core server**

(p. 159, “The QDB has the additional functionality of guiding the client to the VDB that contains the desired information. The QDB makes sure that the VDB being accessed has enough

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<sup>48</sup> The term “remote procedure call” is understood as, “in programming, a call by one program to a second program on a remote system. The second program generally performs a task and returns the results of that task to the first program.” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 406.

<sup>49</sup> The term “DBMS” stands for “database management system,” which is understood as “A software interface between the database and the user. A database management system handles user requests for database actions and allows for control of security and data integrity requirements. *Acronym: DBMS* [...]. *Also called* database manager. [...].” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 129.

Control Number: 90/019,550  
Art Unit: 3992

Page 304

residual capacity to support the new connection before directing the client.” and “The client requests the establishment of a connection with the VDB specified in the query process”; and

p. 160, Table 4 indicates that client makes a request to VDB using “database\_name” of VDB; because the QDB “guid[es] the client to the VDB that contains the desired information” (p. 159), and because the client uses “database\_name” in its request to the VDB (Table 4), a POSITA would understand that “the VDB specified in the query process” (p. 159) is specified by the QDB using the “database\_name,” i.e., the identity of the VDB in the form of “database\_name” is received by the client from the QDB); and

**receiving at the client the specified content from the node server** (Little, Figure 6, shows Playout Controller of client connected to Video DB Server; Little, p. 156, “video playout interfaces”; Little, p. 159, “The client requests the establishment of a connection with the VDB specified in the query process. In the VVB, the delivery of video data to the client occurs over a network-connection that lasts for the lifetime of the session.”; Little, pp. 157–158, “The clients are provided with the necessary hardware/software to support the VVB user-interface and movie playout. [...]. The delivery of the video data to the user begins after the user has browsed the selections, issued a command to ‘play,’ and has been given permission to do so from the server.”; see also Little, sections 3.2.2.–3.2.3.).

As per **claim 81**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 77, wherein the steps performed by the core server and the steps performed by the node server are each implemented, at least in part, in a computer** (Little, p. 157, “The VVB system architecture is designed to support many video-terminals, or clients, and video-databases, or servers, interconnected via a computer network (Fig. 5). [...]. A metadata server (possibly

Control Number: 90/019,550

Page 305

Art Unit: 3992

distributed) called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases. The video databases (VDBs) contain the video data (movies).”).

As per **claim 84**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 57, further comprising the following steps of:**

**transmitting from the client the request for the specified content to the core server**

(Little, p. 149, “user queries are sent to a metadata server for processing”;

Little, p. 158, “When the user wishes to view a video, a query is made first to the QDB for an interpretation of user browsing operations. The delivery of the video data to the user begins after the user has browsed the selections, issued a command to ‘play,’ and has been given permission to do so from the server.”;

Little, pp. 158–159, “The query phase involves the querying of the QDB to get all information required by the client to obtain a selected movie or scene. The query mechanism is implemented using a remote procedure call<sup>[50]</sup> (RPC) between the client and the QDB (POSTGRES is the DBMS<sup>[51]</sup> used in the VVB implementation of the QDB).”);

**receiving at the client the identity of the node server from the core server**

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<sup>50</sup> The term “remote procedure call” is understood as, “in programming, a call by one program to a second program on a remote system. The second program generally performs a task and returns the results of that task to the first program.” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 406.

<sup>51</sup> The term “DBMS” stands for “database management system,” which is understood as “A software interface between the database and the user. A database management system handles user requests for database actions and allows for control of security and data integrity requirements. *Acronym: DBMS* [...]. *Also called* database manager. [...].” Microsoft Computer Dictionary (3rd Ed. 1997) at p. 129.

Control Number: 90/019,550  
 Art Unit: 3992

Page 306

(p. 159, “The QDB has the additional functionality of guiding the client to the VDB that contains the desired information. The QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client.” and “The client requests the establishment of a connection with the VDB specified in the query process”; and

p. 160, Table 4 indicates that client makes a request to VDB using “database\_name” of VDB; because the QDB “guid[es] the client to the VDB that contains the desired information” (p. 159), and because the client uses “database\_name” in its request to the VDB (Table 4), a POSITA would understand that “the VDB specified in the query process” (p. 159) is specified by the QDB using the “database\_name,” i.e., the identity of the VDB in the form of “database\_name” is received by the client from the QDB); **and**

**receiving at the client the specified content from the node server** (Little, Figure 6, shows Playout Controller of client connected to Video DB Server; Little, p. 156, “video playout interfaces”; Little, p. 159, “The client requests the establishment of a connection with the VDB specified in the query process. In the VVB, the delivery of video data to the client occurs over a network-connection that lasts for the lifetime of the session.”; Little, pp. 157–158, “The clients are provided with the necessary hardware/software to support the VVB user-interface and movie playout. [...]. The delivery of the video data to the user begins after the user has browsed the selections, issued a command to ‘play,’ and has been given permission to do so from the server.”; see also Little, sections 3.2.2.–3.2.3.).

As per **claim 85**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 84, the further comprising the step of transmitting from the client a request to the node server to transmit the specified content to the client** (Little, p. 159, “During connection setup,

Control Number: 90/019,550  
 Art Unit: 3992

Page 307

the client checks with the VDB to see if it can support a new connection.” and “The client requests the establishment of a connection with the VDB specified in the query process. In the VVB, the delivery of video data to the client occurs over a network-connection that lasts for the lifetime of the session.”; Little, Table 4, “Query the VDB for the specified video”; see also Figure 6, “RPC”).

As per **claim 86**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 84, further comprising the steps of:**

**monitoring by the client the characteristics of the transmission of the specified content from the node server to obtain auditing information regarding the transmission of the specified content from the node server to the client** (Nuttall, C8:L13–19, “At step 912, data from the content file header is added to the start report data structure. For data structure 1700, such data include the title, artist, copyright, duration, ID.code.type (whether ISRC, ISWC, or etc.), the ID.code.number, the content providing node address, and a file number (a serialized number assigned by encoding process 202).”); **and**

**transmitting from the client the auditing information to the core server** (Nuttall, fig. 9, 916 and 918; C9:L49–51, “Data structures 1700 and 1800 correspond to a single record of the start report and summary report respectively when instantiated in memory of reconciling node 118.”).

Therefore, when employing third party distributors (as VDBs), it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the method of Little to include the client performing “monitoring [...]” and “transmitting [...]” as taught by Nuttall. One would have been motivated to do so in order for the client to report

Control Number: 90/019,550

Page 308

Art Unit: 3992

information that allows the QDB (as modified above in the rejection of claim 1) to “distinguish[...] valid complete data transfers from incomplete transfers” (Nuttall, *id.*) and thereby provide a client-side mechanism to report information needed by the QDB (as modified above in the rejection of claim 1) to determine transfers that initiate compensation due for distribution services, as also taught by Nuttall (e.g., see C4:L52–58, “For each valid complete transfer, reconciling node 118 allocates revenues generated from the debits of users’ accounts [and] initiates funds transfers with messages to banking node 114 on line 160 for payments of, for example, distribution fees and royalties”).

As per **claim 87**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 84, wherein the steps performed by the core server and the steps performed by the client are each implemented, at least in part, in a computer** (Little, p. 157, “The VVB system architecture is designed to support many video-terminals, or clients, and video-databases, or servers, interconnected via a computer network (Fig. 5). [...]. A metadata server (possibly distributed) called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases. The video databases (VDBs) contain the video data (movies).”).

As per **claim 98**, the combination of Little and Nuttall teach the **Apparatus as in claim 90, wherein:**

[...];

[...]; and

Control Number: 90/019,550  
 Art Unit: 3992

Page 309

**the transmitter is further adapted to communicate the identity of the candidate node servers to the client to enable the client to request transmission of the specified content via the network from one of the candidate node servers**

(Little, p. 159, “The QDB has the additional functionality of guiding the client to the VDB that contains the desired information. The QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client.” and “The client requests the establishment of a connection with the VDB specified in the query process”; and

Little, p. 160, Table 4 indicates that client makes a request to VDB using “database\_name” of VDB; because the QDB “guid[es] the client to the VDB that contains the desired information” (p. 159), and because the client uses “database\_name” in its request to the VDB (Table 4), a POSITA would understand that “the VDB specified in the query process” (p. 159) is specified by the QDB using the “database\_name,” i.e., the identity of the VDB in the form of “database\_name” is provided by the QDB to the client).

Although Little teaches “[t]he QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client,” Little does not expressly teach **the receiver is further adapted to receive an identification of a plurality of node servers within the network that can act as a node server for distribution of the specified content; and the core server further comprises computational apparatus adapted to select from the plurality of node servers one or more candidate node servers.**<sup>52</sup>

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<sup>52</sup> As noted above, the corresponding structure for this element includes an algorithm comprising *selecting a node server(s) as a candidate node server(s) based on an analysis of the topological relationship between the client and the node server(s)*. Furthermore, “topological relationship” is

Control Number: 90/019,550  
 Art Unit: 3992

Page 310

Auerbach teaches **the receiver is further adapted to receive an identification of a plurality of node servers within the network that can act as a node server for distribution of the specified content** (C7:L27–30, “the content control system receives or otherwise determines the locations of two or more servers that can potentially fill the needs of the clients”); **and the core server further comprises computational apparatus adapted to select from the plurality of node servers one or more candidate node servers** (C6:L33–37, “The choice of a particular video server to fill requests is based upon the proximity between the client and various potential video servers. The logic that makes this decision is represented by a content control system block 215 connected to network 203.”; C6:L43–45, “The client’s request should be filled by the video server most ‘proximate’ to client 213.”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the receiver of Little/Nuttall to “receive an identification [...]” as taught by Auerbach, and to include the “computational apparatus,” also taught by Auerbach. One would have been motivated to do so in order to populate the QDB’s mapping of movies to VDBs, and “in order to improve, and perhaps even to optimize, the delivery of content to client devices and end-users” (Auerbach, C2:L5–7).

As per **claim 99**, the combination of Little/Nuttall/Auerbach teaches the **Apparatus as in claim 98, wherein: the receiver is further adapted to receive an identification of the locations of the plurality of node servers that can act as a node server for distribution of the**

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interpreted as *physical relationship*. See 376 Patent at C5:L9–13 (“FIG. 1 is a simplified illustration of a system in accordance with the invention; typically, the relationships between network sites—both physical (topological) connections and client-server roles—are more complicated than shown in FIG. 1.”).

Control Number: 90/019,550

Page 311

Art Unit: 3992

**specified content** (Auerbach, C7:L27–30, “the content control system receives or otherwise determines the locations of two or more servers that can potentially fill the needs of the clients”); **the receiver, transmitter and/or computational apparatus are further adapted to determine the location of the client within the network** (Auerbach, C7:L18–23, “FIG. 2B presents a process flow diagram for a general procedure that may be employed to identify a particular server for [...] providing content to clients. Process 240 begins at 242 with the content control system receiving or otherwise identifying the location of one or more clients that will require the content.”); **and the computational apparatus is further adapted to select from the plurality of node servers one or more candidate node servers that are determined to be topologically proximate to the client**(Auerbach, C6:L33–37, “The choice of a particular video server to fill requests is based upon the proximity between the client and various potential video servers. The logic that makes this decision is represented by a content control system block 215 connected to network 203.”; C6:L43–45, “The client’s request should be filled by the video server most ‘proximate’ to client 213.”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to also modify the core server of Little/Nuttall to include the “computational apparatus [...] adapted to determine location of the client [...],” as taught by Auerbach. One would have been motivated to do so in order to calculate the proximity of the client to the video distribution server, which is input required by the “computational apparatus [...] adapted to select [...]” (e.g., see Auerbach, C7:L31–33, “With the locations of the various network entities now in hand, the content control system must determine relevant proximities.”).

As per **claim 100**, the combination of Little/Nuttall/Auerbach teaches the **Apparatus as in claim 99, wherein the determination of topological proximity to the client is performed using a breadth-first search to identify node servers that satisfy a criterion regarding topological proximity to the client** (Auerbach, C11:L9–16).

As per **claim 101**, the combination of Little and Nuttall teaches the **Apparatus as in claim 90, the core server further comprising computational apparatus, wherein the receiver, transmitter and/or computational apparatus are adapted to identify a network site that will act as a node server for distribution of the specified content** (Little, p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”).

The combination of Little and Nuttall does not expressly teach **wherein the transmitter is further adapted to provide the specified content to the node server**.

Auerbach teaches **[a] transmitter is further adapted to provide the specified content to the node server** (C6:L1–41, e.g., “a content control system initially receives a trigger event (103) such as a new title becoming available at a video library or client requests going unfilled,” “a content library 214 that stores various video titles which may be provided to one or more of the video servers. If a new video title becomes available on content library 214 and a particular video server determines that it will likely need that title to fill client request, that title may be loaded from content library 214 to the appropriate video server,” and “Note that content control

Control Number: 90/019,550  
 Art Unit: 3992

Page 313

system 215 may be distributed over multiple entities on the network and may reside, partially or completely, on a content library, a video server, or even a 40 client.”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the transmitter of Little (i.e., the transmitter inherent to the QDB) to be “adapted to provide the specified content to the node server,” as taught by Auerbach. One would have been motivated to do so in order to “employ[...] anticipatory loading of content from a library to a server based upon the server’s proximity to a given client-base” (Auerbach, C2:L19–21) “in order to improve, and perhaps even to optimize, the delivery of content to client devices and end-users” (Auerbach, C2:L5–7).

As per **claim 102**, the combination of Little/Nuttall/Auerbach teaches the **Apparatus as in claim 101, wherein the computational apparatus is further adapted to**

**i) identify the location of a prospective node server** (Auerbach, “first server” or “second server”) **that desires to act as a node server for distribution of the specified content** (Auerbach, C2:L64–C3:L1, “the sequence may include (i) determining a first loading proximity between a source of the content and the first server and (ii) determining a second loading proximity between a source of the content and the second server.”; Auerbach, C3:L14–17, “Preferably, at least one of the first and second proximities is determined by a combination of the following factors: bandwidth, number of hops, congestion, noise and loss on a network segment, and charges incurred to send.”; Auerbach, C11:L39–46, “Topology Discovery. There are techniques, often used in network management platforms, to determine network topology and population. Generally, topology discovery determines which nodes are connected to which other nodes by links. In other words, it simply determines the ‘topology’ of a network. Topology

Control Number: 90/019,550

Page 314

Art Unit: 3992

discovery techniques may employ combinations of SNMP queries, ICMP echo requests, ‘pings,’ ICMP subnet mask requests, and traceroutes.”; Auerbach, C7:L53–55, “Note that each ‘proximity’ used in this process may be generated according to the procedures described herein.”);

**ii) identify the location of one or more other existing node servers** (Auerbach, “source of the content”) **that can act as a node server for distribution of the specified content** (Auerbach, C2:L64–C3:L1, “the sequence may include (i) determining a first loading proximity between a source of the content and the first server and (ii) determining a second loading proximity between a source of the content and the second server.”; Auerbach, C3:L14–17, “Preferably, at least one of the first and second proximities is determined by a combination of the following factors: bandwidth, number of hops, congestion, noise and loss on a network segment, and charges incurred to send.”; Auerbach, C11:L39–46, “Topology Discovery. There are techniques, often used in network management platforms, to determine network topology and population. Generally, topology discovery determines which nodes are connected to which other nodes by links. In other words, it simply determines the ‘topology’ of a network. Topology discovery techniques may employ combinations of SNMP queries, ICMP echo requests, ‘pings,’ ICMP subnet mask requests, and traceroutes.”; Auerbach, C7:L53–55, “Note that each ‘proximity’ used in this process may be generated according to the procedures described herein.”);

**iii) determine the topological proximity of the prospective node server to the existing node servers** (Auerbach, C2:L64–C3:L1, “the sequence may include (i) determining a first loading proximity between a source of the content and the first server and (ii) determining a second loading proximity between a source of the content and the second server.”; see also

Control Number: 90/019,550

Page 315

Art Unit: 3992

Auerbach, C7:L18–62; Auerbach, C7:L53–55, “Note that each ‘proximity’ used in this process may be generated according to the procedures described herein.”),

**wherein the prospective node server is selected as a node server for distribution of the specified content if the prospective node server satisfies a criterion regarding topological proximity to the existing node servers**

(note: the “wherein” clause does not describe structure of the claimed “[a]pparatus,” therefore, although citations to the prior art are provided below for compact prosecution purposes, the “wherein” clause is not given patentable weight;

Auerbach, C3:L1–4, “In this case, the first and second loading proximities are used together with the first and second proximities to determine which of the first and second servers should receive the content.”; see also C7:L18–62).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the content control system of Little (i.e., the QDB) to include the computational apparatus, as taught by Auerbach. One would have been motivated to do so to compare costs between using one prospective node server (VDB of Little) versus a second prospective node server, and to select and load content to the node server with a least cost based at least in-part on proximity to a source of the content, as taught by Auerbach at C7:L18–62.

As per **claim 112**, the combination of Little/Nuttall/Auerbach teaches **Apparatus as in claim 11, wherein: the core server further comprises computational apparatus adapted to identify a network site that will act as a node server for distribution of the specified content** (Little, p. 157, “A metadata server [...] called the query-database (QDB) contains information about the availability of videos and their locations within the VOD system. It also maintains the

Control Number: 90/019,550

Page 316

Art Unit: 3992

availability of different resources in the system and acts as a *name-server* that maps movies to the video databases”), and wherein the transmitter of the core server is further adapted to provide the specified content to the node server; and the receiver of the node server is further adapted to receive the specified content from the core server (Auerbach, C6:L1–41, e.g., “a content control system initially receives a trigger event (103) such as a new title becoming available at a video library or client requests going unfilled,” “a content library 214 that stores various video titles which may be provided to one or more of the video servers. If a new video title becomes available on content library 214 and a particular video server determines that it will likely need that title to fill client request, that title may be loaded from content library 214 to the appropriate video server,” and “Note that content control system 215 may be distributed over multiple entities on the network and may reside, partially or completely, on a content library, a video server, or even a 40 client.”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the content control system of Little (i.e., the transmitter inherent to the QDB) to be adapted to “provide [...],” as taught by Auerbach, and to modify the node server of Little (i.e., the VDBs) to include a “receiver [...] adapted to receive [...],” as also taught by Auerbach. One would have been motivated to do so in order to “employ[...] anticipatory loading of content from a library to a server based upon the server’s proximity to a given client-base” (Auerbach, C2:L19–21) “in order to improve, and perhaps even to optimize, the delivery of content to client devices and end-users” (Auerbach, C2:L5–7).

#### **8.4. Obvious over Little/Nuttall, in view of Szabo**

Claims 20–21, 33–34, 109–110, and 122–123 are rejected under pre-AIA 35 USC § 103(a) as being unpatentable over Little/Nuttall, in view of Szabo.

Control Number: 90/019,550  
Art Unit: 3992

Page 317

As per **claim 20**, the combination of Little and Nuttall teach the **Apparatus as in claim 1**, but does not expressly teach **wherein the network is a television network**.

Szabo teaches a computer network is replaced with **[a] network [that] is a television network** (C44:L17–23, “The present invention may also be used with [...] settop boxes, i.e., consumer electronic devices which typically interface with a broadband information delivery service, such as cable TV or satellite feed, and which typically produce an output display on a television, as well as other embedded Internet clients or other small computers.”).

Since each individual element and its function are shown in the prior art, albeit shown in separate references, the difference between the claimed subject matter and the prior art rests not on any individual element or function but in the very combination itself – that is in the substitution of the television network of Szabo for the computer network of Little/Nuttall. Thus, the simple substitution of one known element for another, producing predictable results, renders the claim obvious.

As per **claim 21**, the combination of Little and Nuttall teach the **Apparatus as in claim 1**, but does not expressly teach **wherein the network is a wireless communications network**.

Szabo teaches a computer network is replaced with **[a] network [that] is a wireless communications network** (C44:L53–C45:L11; C45:L52–63).

Since each individual element and its function are shown in the prior art, albeit shown in separate references, the difference between the claimed subject matter and the prior art rests not on any individual element or function but in the very combination itself – that is in the substitution of the wireless network of Szabo for the computer network of Little/Nuttall. Thus,

Control Number: 90/019,550

Page 318

Art Unit: 3992

the simple substitution of one known element for another, producing predictable results, renders the claim obvious.

As per **claim 33**, the combination of Little and Nuttall teach the **Apparatus as in claim 29**, but does not expressly teach **wherein the client is implemented at least in part in a television set-top box**.

Szabo teaches **wherein [a] client is implemented at least in part in a television set-top box** (C44:L17–23, “The present invention may also be used with personal digital assistants (PDAs), settop boxes, i.e., consumer electronic devices which typically interface with a broadband information delivery service, such as cable TV or satellite feed, and which typically produce an output display on a television, as well as other embedded Internet clients or other small computers.”).

Since each individual element and its function are shown in the prior art, albeit shown in separate references, the difference between the claimed subject matter and the prior art rests not on any individual element or function but in the very combination itself – that is in the substitution of the settop box form factor of Szabo for the client form factor of Little/Nuttall. Thus, the simple substitution of one known element for another, producing predictable results, renders the claim obvious.

As per **claim 34**, the combination of Little and Nuttall teach the **Apparatus as in claim 29**, but does not expressly teach **wherein the client is implemented at least in part in a portable device**.

Szabo teaches **wherein [a] client is implemented at least in part in a portable device**

Control Number: 90/019,550

Page 319

Art Unit: 3992

(C44:L17–23, “The present invention may also be used with personal digital assistants (PDAs), settop boxes, i.e., consumer electronic devices which typically interface with a broadband information delivery service, such as cable TV or satellite feed, and which typically produce an output display on a television, as well as other embedded Internet clients or other small computers.”).

Since each individual element and its function are shown in the prior art, albeit shown in separate references, the difference between the claimed subject matter and the prior art rests not on any individual element or function but in the very combination itself – that is in the substitution of the portable device form factor of Szabo for the client form factor of Little/Nuttall. Thus, the simple substitution of one known element for another, producing predictable results, renders the claim obvious.

As per **claim 109**, the combination of Little and Nuttall teach the **Apparatus as in claim 90**, but does not expressly teach **wherein the network is a television network**.

Szabo teaches a computer network is replaced with **[a] network [that] is a television network** (C44:L17–23, “The present invention may also be used with [...] settop boxes, i.e., consumer electronic devices which typically interface with a broadband information delivery service, such as cable TV or satellite feed, and which typically produce an output display on a television, as well as other embedded Internet clients or other small computers.”).

Since each individual element and its function are shown in the prior art, albeit shown in separate references, the difference between the claimed subject matter and the prior art rests not on any individual element or function but in the very combination itself – that is in the substitution of the television network of Szabo for the computer network of Little/Nuttall. Thus,

Control Number: 90/019,550

Page 320

Art Unit: 3992

the simple substitution of one known element for another, producing predictable results, renders the claim obvious.

As per **claim 110**, the combination of Little and Nuttall teach the **Apparatus as in claim 90**, but does not expressly teach **wherein the network is a wireless communications network**.

Szabo teaches a computer network is replaced with **[a] network [that] is a wireless communications network** (C44:L53–C45:L11; C45:L52–63).

Since each individual element and its function are shown in the prior art, albeit shown in separate references, the difference between the claimed subject matter and the prior art rests not on any individual element or function but in the very combination itself – that is in the substitution of the wireless network of Szabo for the computer network of Little/Nuttall. Thus, the simple substitution of one known element for another, producing predictable results, renders the claim obvious.

As per **claim 122**, the combination of Little and Nuttall teach the **Apparatus as in claim 118**, but does not expressly teach **wherein the client is implemented, at least in part, in a television set-top box**.

Szabo teaches **wherein [a] client is implemented at least in part in a television set-top box** (C44:L17–23, “The present invention may also be used with personal digital assistants (PDAs), settop boxes, i.e., consumer electronic devices which typically interface with a broadband information delivery service, such as cable TV or satellite feed, and which typically produce an output display on a television, as well as other embedded Internet clients or other small computers.”).

Control Number: 90/019,550  
Art Unit: 3992

Page 321

Since each individual element and its function are shown in the prior art, albeit shown in separate references, the difference between the claimed subject matter and the prior art rests not on any individual element or function but in the very combination itself – that is in the substitution of the settop box form factor of Szabo for the client form factor of Little/Nuttall. Thus, the simple substitution of one known element for another, producing predictable results, renders the claim obvious.

As per **claim 123**, the combination of Little and Nuttall teach the **Apparatus as in claim 122**, but does not expressly teach **wherein the client is implemented, at least in part, in a portable device**.

Szabo teaches **wherein [a] client is implemented at least in part in a portable device** (C44:L17–23, “The present invention may also be used with personal digital assistants (PDAs), settop boxes, i.e., consumer electronic devices which typically interface with a broadband information delivery service, such as cable TV or satellite feed, and which typically produce an output display on a television, as well as other embedded Internet clients or other small computers.”).

Since each individual element and its function are shown in the prior art, albeit shown in separate references, the difference between the claimed subject matter and the prior art rests not on any individual element or function but in the very combination itself – that is in the substitution of the portable device form factor of Szabo for the client form factor of Little/Nuttall. Thus, the simple substitution of one known element for another, producing predictable results, renders the claim obvious.

**8.5. Obvious over Little/Nuttall/Auerbach, in view of Kenner**

Claim 64 is rejected under pre-AIA 35 USC § 103(a) as being unpatentable over Little/Nuttall/Auerbach, in view of Kenner.

As per **claim 64**, the combination of Little/Nuttall/Auerbach teach **A method as in claim 62**. Although Little teaches “[t]he QDB makes sure that the VDB being accessed has enough residual capacity to support the new connection before directing the client” (p. 159), Little/Nuttall/Auerbach does not expressly teach **wherein the step of obtaining information at the core server regarding the characteristics of the transmission of the content comprises the step of obtaining information at the core server regarding the bandwidth and/or latency performance associated with the transmission of the content**.

Kenner teaches **wherein [a] step of obtaining information at [a] core server regarding the characteristics of [a] transmission of [...] content comprises the step of obtaining information at the core server regarding the bandwidth and/or latency performance associated with the transmission of the content** (C25:21–41, “The DSI 58 invoked by the PIM 64 selects the highest priority (least loaded) SRU 66 from the list provided by the PIM 64. [...] information on download latency (i.e. which SRUs were unable to handle the download, and how long it took the successful SRU to begin the successful transfer) is sent back to the PIM 64, to allow the PIM 64 to dynamically recalculate priorities and apparent loads. [...] The DSI process 58 can be hosted by the PIM 64, [...]”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the method of Little/Nuttall/Auerbach to include the step of “obtaining [...]” taught by Kenner. One would have been motivated to do so in order for the

Control Number: 90/019,550  
Art Unit: 3992

Page 323

medium (QDB) to dynamically recalculate VDBs that are the “least loaded” (Kenner, *id.*) when directing the client to a particular VDB.

#### **8.6. Obvious over Little/Nuttall/Auerbach, in view of Pierre**

Claims 14, 46, 69, and 103 are rejected under pre-AIA 35 USC § 103(a) as being unpatentable over Little/Nuttall/Auerbach, in view of Pierre.

As per **claim 14**, the combination of Little/Nuttall/Auerbach teaches **Apparatus as in claim 13**, but does not expressly teach **wherein the means for determining the topological proximity of the prospective node server to the existing node servers is performed using an annealing method**.

Pierre teaches **wherein [...] means for determining [...] topological proximity [...] is performed using an annealing method** (Abstract, “This paper presents an application of the simulated annealing heuristic to the problem of designing computer communication networks. This problem essentially consists in finding the least-cost network topologies that satisfies a given set of performance and reliability constraints. The results of the computational experiments show that simulated annealing is a suitable approach for solving this very difficult combinatorial optimization problem, in the sense that it provides feasible and low-cost solutions within reasonable CPU times.”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify Little/Nuttall/Auerbach, in particular to modify Auerbach’s approach in determining a least cost topology of distribution nodes to include the annealing method taught by Pierre. One would have been motivated to do so because “simulated annealing

Control Number: 90/019,550  
Art Unit: 3992

Page 324

is a suitable approach for solving this very difficult combinatorial optimization problem, in the sense that it provides feasible and low-cost solutions within reasonable CPU times” (Pierre, *id.*).

As per **claim 46**, the combination of Little/Nuttall/Auerbach teaches **A computer readable storage medium or media as in claim 45**, but does not expressly teach **wherein the instructions for determining the topological proximity of the prospective node server to the existing node servers comprise instructions for performing an annealing method**.

Pierre teaches **wherein [...] instructions for determining [...] topological proximity [...] comprise instructions for performing an annealing method** (Abstract, “This paper presents an application of the simulated annealing heuristic to the problem of designing computer communication networks. This problem essentially consists in finding the least-cost network topologies that satisfies a given set of performance and reliability constraints. The results of the computational experiments show that simulated annealing is a suitable approach for solving this very difficult combinatorial optimization problem, in the sense that it provides feasible and low-cost solutions within reasonable CPU times.”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify Little/Nuttall/Auerbach, in particular to modify Auerbach’s approach in determining a least cost topology of distribution nodes to include the annealing method taught by Pierre. One would have been motivated to do so because “simulated annealing is a suitable approach for solving this very difficult combinatorial optimization problem, in the sense that it provides feasible and low-cost solutions within reasonable CPU times” (Pierre, *id.*).

Control Number: 90/019,550  
Art Unit: 3992

Page 325

As per **claim 69**, the combination of Little/Nuttall/Auerbach teaches **A method as in claim 68**, but does not expressly teach **wherein the step of determining the topological proximity of the prospective node server to the existing node servers is performed using an annealing method**.

Pierre teaches **wherein [...] step of determining [...] topological proximity [...] is performed using an annealing method** (Abstract, “This paper presents an application of the simulated annealing heuristic to the problem of designing computer communication networks. This problem essentially consists in finding the least-cost network topologies that satisfies a given set of performance and reliability constraints. The results of the computational experiments show that simulated annealing is a suitable approach for solving this very difficult combinatorial optimization problem, in the sense that it provides feasible and low-cost solutions within reasonable CPU times.”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify method of Little/Nuttall/Auerbach, in particular to modify Auerbach’s approach in determining a least cost topology of distribution nodes to include the annealing method taught by Pierre. One would have been motivated to do so because “simulated annealing is a suitable approach for solving this very difficult combinatorial optimization problem, in the sense that it provides feasible and low-cost solutions within reasonable CPU times” (Pierre, *id.*).

As per **claim 103**, the combination of Little/Nuttall/Auerbach teaches **Apparatus as in claim 102**, but does not expressly teach **wherein the determination of the topological**

**proximity of the prospective node server to the existing node servers is performed using an annealing method.**

Pierre teaches **wherein [...] determination of [...] topological proximity [...] is performed using an annealing method** (Abstract, “This paper presents an application of the simulated annealing heuristic to the problem of designing computer communication networks. This problem essentially consists in finding the least-cost network topologies that satisfies a given set of performance and reliability constraints. The results of the computational experiments show that simulated annealing is a suitable approach for solving this very difficult combinatorial optimization problem, in the sense that it provides feasible and low-cost solutions within reasonable CPU times.”).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify method of Little/Nuttall/Auerbach, in particular to modify Auerbach’s approach in determining a least cost topology of distribution nodes to include the annealing method taught by Pierre. One would have been motivated to do so because “simulated annealing is a suitable approach for solving this very difficult combinatorial optimization problem, in the sense that it provides feasible and low-cost solutions within reasonable CPU times” (Pierre, *id.*).

#### **8.7. Obvious over Little/Nuttall/Auerbach, in view of Szabo**

Claims 75–76 and 88–89 are rejected under pre-AIA 35 USC § 103(a) as being unpatentable over Little/Nuttall/Auerbach, in view of Szabo.

As per **claim 75**, the combination of Little/Nuttall/Auerbach teaches **A method as in claim 57**, but does not expressly teach **wherein the network is a television network**.

Control Number: 90/019,550  
Art Unit: 3992

Page 327

Szabo teaches a computer network is replaced with **[a] network [that] is a television network** (C44:L17–23, “The present invention may also be used with [...] settop boxes, i.e., consumer electronic devices which typically interface with a broadband information delivery service, such as cable TV or satellite feed, and which typically produce an output display on a television, as well as other embedded Internet clients or other small computers.”).

Since each individual element and its function are shown in the prior art, albeit shown in separate references, the difference between the claimed subject matter and the prior art rests not on any individual element or function but in the very combination itself – that is in the substitution of the television network of Szabo for the computer network of Little/Nuttall. Thus, the simple substitution of one known element for another, producing predictable results, renders the claim obvious.

As per **claim 76**, the combination of Little/Nuttall/Auerbach teaches **A method as in claim 57**, but does not expressly teach **wherein the network is a wireless communications network**.

Szabo teaches a computer network is replaced with **[a] network [that] is a wireless communications network** (C44:L53–C45:L11; C45:L52–63).

Since each individual element and its function are shown in the prior art, albeit shown in separate references, the difference between the claimed subject matter and the prior art rests not on any individual element or function but in the very combination itself – that is in the substitution of the wireless network of Szabo for the computer network of Little/Nuttall. Thus, the simple substitution of one known element for another, producing predictable results, renders the claim obvious.

Control Number: 90/019,550  
Art Unit: 3992

Page 328

As per **claim 88**, the combination of Little/Nuttall/Auerbach teaches **A method as in claim 84**, but does not expressly teach **wherein the steps performed by the client are implemented, at least in part, in a television set-top box**.

Szabo teaches **wherein [...] steps performed by [a] client are implemented, at least in part, in a television set-top box** (C44:L17–23, “The present invention may also be used with personal digital assistants (PDAs), settop boxes, i.e., consumer electronic devices which typically interface with a broadband information delivery service, such as cable TV or satellite feed, and which typically produce an output display on a television, as well as other embedded Internet clients or other small computers.”).

Since each individual element and its function are shown in the prior art, albeit shown in separate references, the difference between the claimed subject matter and the prior art rests not on any individual element or function but in the very combination itself – that is in the substitution of the settop box form factor of Szabo for the client form factor of Little/Nuttall. Thus, the simple substitution of one known element for another, producing predictable results, renders the claim obvious.

As per **claim 89**, the combination of Little/Nuttall/Auerbach teaches **A method as in claim 84**, but does not expressly teach **wherein the steps performed by the client are implemented, at least in part, in a portable device**.

Szabo teaches **wherein [...] steps performed by [a] client are implemented, at least in part in, a portable device**

Control Number: 90/019,550

Page 329

Art Unit: 3992

(C44:L17–23, “The present invention may also be used with personal digital assistants (PDAs), settop boxes, i.e., consumer electronic devices which typically interface with a broadband information delivery service, such as cable TV or satellite feed, and which typically produce an output display on a television, as well as other embedded Internet clients or other small computers.”).

Since each individual element and its function are shown in the prior art, albeit shown in separate references, the difference between the claimed subject matter and the prior art rests not on any individual element or function but in the very combination itself – that is in the substitution of the portable device form factor of Szabo for the client form factor of Little/Nuttall. Thus, the simple substitution of one known element for another, producing predictable results, renders the claim obvious.

## 9. Conclusion

In order to ensure full consideration of any affidavits or declarations, or other documents as evidence of patentability, such documents must be submitted in response to this Office action. Submissions after the next Office action, which is intended to be a final action, will be governed by the requirements of 37 CFR § 1.116, after final rejection and 37 CFR § 41.33 after appeal, which will be strictly enforced.

Extensions of time under 37 CFR § 1.136(a) will not be permitted in these proceedings because the provisions of 37 CFR § 1.136 apply only to “an applicant” and not to parties in a reexamination proceeding. Additionally, 35 USC § 305 requires that reexamination proceedings “will be conducted with special dispatch” (37 CFR § 1.550(a)). Extensions of time in *ex parte* reexamination proceedings are provided for in 37 CFR § 1.550(c). See MPEP § 2265.

Control Number: 90/019,550  
Art Unit: 3992

Page 330

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Any inquiry concerning this communication should be directed to Jacob C. Coppola at (571) 270-3922. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Andrew J. Fischer can be reached at (571) 272-6779. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-9900.

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Control Number: 90/019,550

Page 331

Art Unit: 3992

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